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BRITISH RURAL SPORTS:

HUNTING, [illegible]

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AND

ALL RURAL GAMES AND [illegible] OF GREAT BRITAIN

By STONEHENGE,

[illegible]

ILLUSTRATED BY NUMEROUS [illegible] ON WOOD FROM ORIGINAL DESIGNS BY WELLS, [illegible] &c.

SEVENTH EDITION, ENTIRELY REVISED, WITH ADDITIONS

LONDON:

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BEDFORD STREET, COVENT GARDEN.

NEW YORK, SCRIBNER, WELFORD AND [illegible]

1871.

BRITISH RURAL SPORTS:

COMPRISING

SHOOTING, HUNTING, COURSING, FISHING, HAWKING, RACING, BOATING, PEDESTRIANISM,

AND THE

VARIOUS RURAL GAMES AND AMUSEMENTS OF GREAT BRITAIN.

By STONEHENGE,

EDITOR OF "THE FIELD," AUTHOR OF "THE GREYHOUND."

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PREFACE

TO

THE FIRST EDITION.

For the last twenty years and upwards, it has been the amusement of my leisure hours to master the *arcana* of the several Rural Sports peculiar to Great Britain, or as many of them as came within my reach, in which pursuit I have met with great difficulties, owing chiefly to the want of treatises giving such minute instructions as would serve my purpose; for though some were then in existence, and more have since been published, which professed to go into the details of the special amusements they describe, yet they are too often defective in the very points which they ought to dilate upon, and the author's attempt to make his theme amusing has often rendered the arrangement obscure, or else his want of practice in writing has prevented him from presenting his ideas in an intelligible form. The nature of the inhabitants of these isles is sufficiently prone to the enjoyment of rural sports without any further temptation, and all that the young sportsman wants is a clear description of the habits of the animal he is pursuing, and the proper management of his dogs, or of the peculiar implements of his sport. Having myself been retarded by this deficiency in our sporting literature, I have in the following pages endeavoured to supply it, by giving the result of my experience in the shape of a Manual of British Rural Sports, embracing not only the above-mentioned details, but also a description of everything relating to the various kinds of racing adopted in this country, and of the out-door games and amusements peculiar to it. By some it may be supposed that there are already numerous cyclopædias, &c., relating to these subjects; but I believe I shall only state what is the general opinion when I assert, that there is not one which is really sufficient to enable the young sportsman to teach himself more than one or two departments of rural sports. Neither are there many special treatises which enter fully into the subject of which they profess to treat, for though some are exceedingly interesting as far as they go, yet they seldom embrace the whole of the details, but rather dilate upon some particular department. Among those which are especially useful are the various writings of "Nimrod" and "Scrutator" on *Horses and Hounds;* those of Mr. Scrope and Mr. Colquhoun on *Deer-*

stalking; Messrs. Stoddart and "Ephemera" on *Fishing*; and the Author of *The Cricket Field.* Colonel Hawker's book on *Shooting* is now becoming somewhat behind the times, in consequence of the great change in guns and in the management of game preserves since his day; but his remarks on *Punt-shooting* are still as applicable as ever to that sport, of which, however, I do not profess to know much from practical experience, and, therefore, have referred my readers to his book for its details, as also I have done in the case of *Deer-stalking* to Mr. Scrope. In all the other sports to which I have alluded I have myself been fully initiated, not only in their general features, but in all their more secret operations, which the sportsman is often inclined to leave to his gamekeeper or other subordinate; but in the articles on *Fishing* and *Cricket*, the reader will do well to consult the pages of the works above alluded to, where the details of these sports are more fully entered into than the limits of this book will allow. No reference will be found to *Boxing*, *Cock-fighting*, or any other illegal amusement, because whatever difference of opinion there may be as to their advantages or otherwise, there ought to be none on the propriety of obeying the law of the land; and while that orders their discontinuance, no good subjects have any right to indulge in them.

The Illustrations which will be found interspersed through the following pages are most of them designed expressly for this work by Messrs. Wells and Hind, and engraved with great fidelity and skill by the Messrs. Dalziel and Mr. Hodgkin. Of the artistic effect produced by their joint labours, I must leave the public to judge; but of their truth and accuracy as copies of the subjects they profess to embody, I can speak in terms of unqualified approbation.

In order to guard against the charge of wholesale plagiarism, it may be necessary to explain that some of the chapters on the Training of Man have been recently published under another signature.

In the department of Natural History, the nomenclature adopted is that of the British Museum, by which arrangement the reader may at any time refer to that beautiful series of specimens for comparison.

With these few explanations of my object in putting together these pages, I must throw myself upon the indulgence of my readers, and trust that I may have as favourable a reception as on former occasions when I have subscribed myself

STONEHENGE.

October, 1855.

PREFACE

TO

THE SEVENTH EDITION.

British Rural Sports first appeared in 1855; since which date six large editions have been disposed of, and the work has been admitted to be now a *desideratum* among English sportsmen. Time has, however, rendered it necessary to introduce a good many alterations in, and additions to, the text; and advantage has been taken of these circumstances to entirely reset the book in larger type, and add many new illustrations. It is hoped that this course will give *British Rural Sports* a new career of usefulness.

Since the original publication shot guns and sporting rifles have been completely remodelled, a new code of laws for the courser's use have been drawn up by a Club instituted for that purpose, the game of croquet has taken every country garden by storm, and horse as well as dog-shows have been instituted from one end of the kingdom to the other. Very little change has taken place in other departments of sport, with the exception of angling, in which a new law relating to salmon fisheries has been passed, and in game preserving, wherein the act for the prevention of poaching at night has almost put an end to the brutal conflicts between the poachers and the keepers which were formerly so common. All these changes and novelties have been, I believe, embodied in the present edition, with the addition of the pedigrees of the most celebrated horses which have appeared since 1855 to the tables first published by myself in the form now so generally adopted, so as to bring the *Manual of British Rural Sports* up to the level of the present day. The addition of a faithful series of portraits of the various breeds of British Dogs will, I trust, be acceptable to the reader, and remunerate the spirited publisher for his outlay in that department. At the time when the first edition appeared, I was unable, for want of knowledge, to describe all the different dogs known in the United Kingdom, but the institution of shows has brought together good specimens of each and all, and Mr. Wells has, I think, caught their characteristics with great fidelity.

STONEHENGE.

London, Jan. 1867.

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INTRODUCTORY REMARKS.

The term, *Rural Sports*, usually comprehends all those out-door amusements in which man either pursues wild animals for sport, or competes with an antagonist in racing, by means of the horse, the boat, or his own unaided powers, or indulges in manly games of skill, or in artificial modes of locomotion—like swimming, skating, riding, or driving. The love of sport appears to be inherent in the breast of man, for from the earliest ages we have records of the chase; and whether in the forests of America, or the squalid streets of our manufacturing towns, the same taste is displayed, though, necessarily, shown in very different ways. Thus, while the Red Indian employs nearly his whole life in the pursuit of the deer, the buffalo, or the bear, the cotton-spinner of Manchester can only spare time for an occasional rabbit-course at the Pomona Gardens, or perhaps a boat-race, or pedestrian match; nevertheless, the desire is equally implanted in each, and is peculiarly strong among the natives of the British Islands. Differing in all other respects, as do the English, Scotch, and Irish, they yet seem all to unite on this common ground, and all to enjoy with equal zest the sports of the field. This is the more remarkable in comparing the Irish and Scotch, since their characters are, in most respects, so widely different; for though the Irishman is more like a Frenchman than a Scotchman in most points, yet there is one bond of union between him and his northern neighbour which nothing seems able to break, viz., their mutual love of field sports.

No one can doubt for an instant the utility and importance of out-door amusements in promoting health, and this alone ought to be sufficient to cause their encouragement. In an age like the present, when in a struggle for precedence in the senate, the bar, or the haunts of commerce, time is considered as of equal value with money, it can scarcely be wondered at, that many of the competitors in the race lose health, both of body and mind. Nothing enfeebles and lowers the bodily and mental tone more than an entire giving up of all the energies to one single pursuit; the overworked lawyer or merchant, however, has only to bestow an occasional day upon any one of the various sports within his reach, and he speedily recovers himself, and instead of losing way in the course which he is pursuing, he is enabled to do more than make up the lost time which his absence has occasioned, by the increased vigour that his change of scene and occupation has given him. This is so well understood in London, that many of our first merchants make a regular practice of devoting one or two days a-week to some kind of out-door amusement. Some take to hunting, others to shooting; others, again, to coursing, or to farming on the small scale; and all of these act upon the principle of unbending the bow to enable it to regain its spring, and all are attended with the same happy result in various degrees. But the health of the individual is not the only advantage aimed at and obtained by the promotion of

field sports; and this has lately been exemplified in a very remarkable manner at Alma, Inkermann, Balaklava, and Sebastopol. Where would our officers and men have been in those dreadful fields of carnage but for the habits of daring and endurance which the manly sports of Britain have instilled into their minds from time immemorial? To those who have seen the perils of the steeple-chase, the hunting-field, or I may say, the *modern* cricket-field—ardently sought for and encountered by the youth of this country without flinching—it can be no wonder that they have excited the admiration of their foes as well as their friends in the Crimea. It may appear absurd to compare together such apparently widely different degrees of danger, but when the stimulus to each is taken into the account the difference is not so great. We have all seen many bold but bad riders undertake to pilot a horse in a steeple-chase with the almost certain risk of being ridden over during its course: and, again, when in cricket fast bowling was becoming the fashion, and before the various guards were introduced, how small was the chance of escaping serious injury in a long innings; for if bones were not broken, important organs were often seriously bruised and injured; and yet there was no flinching, until the repeated occurrence of permanent injuries necessitated the use of leg and body-pads. Thus it will be manifest that these amusements not only improve the health of the people individually, but collectively they enable them, by giving vigour, courage, and power of endurance—or, in other words, "pluck," to withstand, as a nation, the encroachments of their neighbours. In fact, they make good healthy subjects for peace or war.

But it has often been said that field-sports injure the moral and religious habits of the people, and this is even more important to consider than the question regarding their effect upon the body. There is no doubt in my mind that however they may benefit the bodily and mental powers, yet if they can clearly be shown to be opposed to religion and morality, they are unworthy the support of every right-thinking man. Now, in considering this important subject, it is right to inquire—first, whether they are opposed to the laws of God, or supported by them; secondly, whether they are likewise opposed to or supported by the laws of nature; and thirdly, whether, as far as we can judge by human reason, they do really aid or oppose the cause of law and order. With regard to the law of God, there can be no doubt, from many examples in the Old Testament, that the chase was permitted; and though we have no reason to conclude that it was for the purpose of sport, yet we are distinctly told that all beasts are given up to the use of man. It is clear, therefore, that if it can be established that field sports are not only pleasurable but useful to the people indulging in them, then the purpose of the Almighty is fulfilled, and the life of the animal pursued has not been wantonly sacrificed. But in this view of the case it is all-important that the end and object should be a good one; there is a vast difference between "cock-shying" (in which a poor cock is tied to a stake for the purpose of allowing a lot of lubberly boys to try their skill in throwing at him) and fox-hunting, in which two or three hundred men and horses and twenty-five couple of hounds are all fully engaged in foiling the artful dodges of that wily animal; and this only under certain recognised conditions, which give the fox a clear chance of escape. Still, all pursuit of game merely for sport has an element of cruelty attending it; and it should always be remembered that this stain must be subdued, and, if possible, washed out by the many counterbalancing advantages. At all events, even though it may be granted that

the pursuit of game *as sport* is not distinctly enjoined, or even mentioned, in Holy Writ, it may also be admitted that there is no command against it. In the early ages of mankind, as in the case of Esau, venison was sought for as food, and in that capacity it was ordered to be used; but in this country no game could or would be reared solely for food, except in very small quantities perhaps for the higher and luxurious classes of society. Few pheasants cost less than 30*s.* a brace; and it is said, though I scarcely think with truth, that three hares eat as much as a sheep. Rabbits, we know, destroy three times as much as they eat; and the only harmless kind of game, in point of cost, is the partridge; for its congener, the grouse, is costly enough, from requiring extensive moors for its breeding and rearing, undisturbed by the presence of man to any great extent.

In the next place, let us examine into the question by the laws of nature, where the case is more clear, since all analogy tells us that we are right in preying upon our inferiors. The tiger and all the cat kind not only catch and eat their prey, but they play with it and torment it; I do not say that this justifies us in doing the like, but that nature has evidently implanted in them a love of sport, and of a most cruel order apparently. Again, many animals will only devour their prey while yet warm, and refuse to eat it when cold, or even when taken by another of their own kind. Nothing is more astonishing to the lover of nature, and the admirer of her laws, than the series of destructions and restorations which are constantly going on. The grass preys upon the ingredients of the soil, raising its materials from the inorganic condition of the mineral world to that much more complicated one of the vegetable kingdom. Next, the grass is seized by the graminivorous animal, and is digested in his complicated stomach, becoming converted into flesh; and this flesh again is torn and mangled by the carnivorous quadruped or bird, after hunting it down; or is devoured, if killed by other means, by some one of the many natural scavengers of creation in the shape of the vulture, the hyena, or the eel. But in either case the results of the digestion are again returned to the earth, to form the first step in the eternal round of assimilation, by again supplying food for some of the grasses. Thus, all nature teems with examples of one class or species preying upon a lower one; and even in many cases, as in that of parasites, an inferior class preying upon another much higher in the scale of creation.

The third inquiry, namely, whether, as far as we can judge by human reason, field sports do really aid or oppose the cause of law and order, is a much more complicated one, and for its correct elucidation the science of statistics must be carefully studied. On the one hand, by the indulgence of sport, we have the benefits afforded to the health of the people which we have seen that they give; we have also general contentment and happiness increased by a knowledge that the feelings and wishes of the masses are consulted by their lawgivers; and we have, in addition, the full persuasion that by preventing the indulgence in field sports resort would be had, in most cases, to the public-house, for the purpose of relieving that care-worn feeling which incessant work inevitably causes. The old adage, "All work and no play makes Jack a dull boy," is strictly true; and therefore it becomes a question what kind of play is best fitted to produce the good effect which is required. One thing is certain, that the field sports of Great Britain have been, and are still, the means of, and the cloak for, untold abuses; but, it may be answered, that this may be said of every thing under

the sun, however useful or beneficial it may really be; and therefore, to avoid this imputation, let us all take especial care to purge away the foul abuses, and, as far as in us lies, to retain only what is true to nature, and to nature's God. If this purpose is rigidly adhered to, and the vicious grafts upon sport are carefully pruned away, then we may hope to obtain the full benefit of the scheme propounded to us by nature, unalloyed by the base additions made by the vice of man. There can be no reason why hunting or shooting should not be carried on without any drawback except the one to which I have already alluded, viz., the inherent cruelty attending upon them. Coursing, also, need have no alloy; and even racing, which, as now conducted, is perhaps more injurious to the morals than useful to the warlike purposes of the nation, may be purged of all its bad and vicious tendencies. Then, if this is possible, why should it not be done? Let our legislators look well to this, for much of our future well-being, as a people, depends upon this question. Man will have amusement of some kind, and for his bodily and mental health, in the present state of society, that amusement must be out of doors. Much has been done to destroy the evil agencies at work among us; "the Betting-houses' Act," the alteration of game laws, &c., have been useful in their several ways, but much yet remains to be done. Let it be remembered, that sport should be used and not abused, and let not the abuse of it be urged against its use. Then may we hope to see the full amount of good developed, of which this element in our social life is capable; and then may the sportsman, who is also the legislator, lie down after his day's sport with a full conviction that he has had a share in one of those institutions of his country, of which he may well be proud.

In the following *Manual of British Rural Sports*, the first part treats of "The Pursuit of Wild Animals for Sport," comprehending Shooting—Hunting—Coursing—Falconry—and Fishing. Part the second embraces an account of "Racing in all its Branches," viz., Flat-racing—Hurdle-racing—Steeplechasing—Riding to Hounds—Trotting-matches—Yachting—Boat-racing—and Pedestrianism; while the third extends over the following long list, viz., Cricket—Foot-ball—Fives—Bowling—Tennis — Curling — Golfing — Swimming — Skating—Horsemanship—and Driving. And, lastly, the fourth and fifth parts are devoted to such a description of the Anatomy, Physiology, and Diseases of the Dog and Horse, as may enable the sportsman to preserve their health, or to relieve any of the more ordinary deviations from it. In this enumeration, Pugilism, Cock-fighting, Bull and Badger-baiting are omitted, as being contrary to the laws of the land; and, to the best of my judgment, nothing is inserted which can injure the morals, or destroy that gentlemanly feeling which it should be the object of every true sportsman to encourage.

MANUAL

OF

BRITISH RURAL SPORTS.

PART I.

THE PURSUIT OF WILD ANIMALS FOR SPORT.

BOOK I.—SHOOTING.

CHAPTER I.

PRESERVATION OF GAME.

Sect. 1.—Selection of Preserve.

In all the varieties of the chase, whether hunting, shooting, coursing, or fishing, the first thing to be provided is, that there shall be something to pursue. Mrs. Glasse's very sensible precept for roasting a hare is, "first catch your hare;" and so all sportsmen should remember, that before they can have sport, they must have game in existence, though not in their larder. Nothing is so galling, even to the proverbially patient angler, as to be without a "nibble;" and the blank day to the fox-hunter is the *summum malum*. The former is comparatively well satisfied if he hooks a fish or two, although he may fail to land one; and the latter would much prefer to sit on his horse, and even hear the hounds find their fox, and go away without him on the other side of a large wood, rather than go home with the sad words, blank! blank!! blank!!! constantly in his ears. If the fish or fox is lost, it may be from accident or a bad scenting day, or some other mischance; but if not found, there is less hope for an improvement on the next occasion. It is to the shooter that these observations more especially apply, since he is more particularly dependent upon the preservation of game for the quality of his sport. To walk all day, and see nothing, is still more disheartening than to whip the waters without a rise. A brace of hares, or a single fox, will serve for the amusement of a large field of fox-hunters or thistle-whippers; but the pheasant, grouse, or partridge-shooter is more voracious, and the quality of his sport is too often measured by the weight of the game-bag. I confess, that in my humble opinion, this thirst for blood, or, as the phrenologist would say, destructiveness, is destructive often of true sport. The bag is considered too much; and to get game (in a sportsman-like manner if possible, but at all events to get it) is too often the desire of the gentlemen in shooting costume; still, such is now the prevailing taste, and if you wish to gratify your friends with a day's shooting, your only certain plan of affording them that gratification is to show them plenty of game.

When a choice is to be made of a moor or enclosed manor, it is highly desirable that every pains should be taken to see that it is suited for the purpose for which it is to be rented. If the intending tenant is a young sportsman, he should be very careful not to be taken in, and he had better consult some more experienced friend, upon whose judgment he can rely. The frauds which are yearly committed upon the young sportsman on the moors, as well as in the stubbles and coverts of England, are enough to make him cautious before engaging a beat. There are only two seasons of the year in which it is possible to ascertain the amount of game which a preserve contains—first, during the shooting season, by actual experience; and secondly, during the pairing season, when dogs may be allowed to hunt the

ground with impunity. During the former of these times many would think that the sportsman could scarcely be taken in, as he sees what is left after his sport, and can judge for himself; but this is a great mistake, as many have found to their cost. To guard against it, he should bargain, if he agrees to take the ground, that it should be at *once* given up to him, for I have known a wonderful difference between the head of game, on an extensive beat, in the first week of September, and that in the last week of the year. Keepers, we all know, *can* poach if they like, and if they are not to be retained by their new masters, it is to be expected that many of them will take advantage of the knowledge acquired during their previous term of office. Wherever, therefore, you have decided upon taking a manor, make up your mind either to retain the keeper, if you think him trustworthy, or to displace him at once, if otherwise, although you are certain even then of losing a considerable quantity of game. It is evident that a strange man cannot compete with one who knows all the haunts of the game; and, therefore, the old hand has the opportunity of robbing you if he likes,—or if he does not do so directly, he can indirectly, through some of those half-poachers, half-keepers, with whom so many are in league. But the best time to make choice of a moor or a partridge manor, or, more particularly, of an extensive covert, is in the month of February or March. At this time you may, by a little perseverance, have ocular demonstration of nearly every head of winged game on the beat. By taking out a brace of strong and fast pointers or setters, you may easily beat over a couple of thousand acres of arable land, or double that quantity of moor land, and you will thereby find at least three-fourths of the birds. In this proceeding you must take care not to let the keeper palm off the same birds upon you two or three times over, which he may easily do if you are not on your guard. To avoid this trick, observe the line which the birds that have been put up take, and instead of following that line, which the keeper will most probably try to induce you to do, just keep to the right or left of it. In beating, also, go straight ahead, if the manor is extensive, and do not follow the same plan as if you were shooting. Take one field after another in straight line; and though you will not thereby see so much game as you otherwise would, you will, at all events, avoid the mistake of fancying that there are 150 brace instead of 50. With regard to pheasants, you may always be shown these birds at feeding time, as the keepers know where to find them as well as barn-door fowl. If, therefore, they are not shown, depend upon it, *if it is the interest of the keeper to show them*, that they are not in existence. As to the number of hares and rabbits, you may generally make a pretty good guess at them by the state of the runs and meuses. If these are numerous and well used, there is sure to be plenty of fur; or, at all events, there has been till very recently. The spring months are also the only ones in which vermin can be successfully trapped, and therefore you have every reason for taking your moor or manor at that time of the year.

In all CONTRACTS FOR TAKING MANORS, the agreement ought to be in writing, and properly executed on a stamped paper. The following form has been found to answer all the purposes required, and is more simple than most of those in general use:—

MEMORANDUM of an agreement made this day between A. B. of ——, and C. D. of ——; the said A. B. agrees to let the said C. D. (without power of sub-letting or assigning) the whole of the game on the lands, farms, or moors in the parish of ——, from this present date to the —— of ——; that is to say, that he, the said C. D., shall have full power by himself, or others having his authority, to kill game over the above-named lands, during all lawful times and seasons. And in consideration of the same permission of A. B., the said C. D. agrees to pay the sum of —— on the 25th day of January in each year; but the first payment to be made at the signing of these presents. And the said C. D. further agrees that he will preserve the game in a fair and proper manner, and that he will not destroy, in the last year of his tenancy, more than he has done, or ought to have done, in the previous ones. And, in the event of any difference of opinion, it is further agreed by and between the parties to these presents, that the same shall be referred to the arbitration of some two parties, one to be chosen by each, with power to choose an umpire, if necessary, whose decision shall be final. In witness whereof we do hereby sign our names, in the presence of E. T., A. B., C. D. Dated this —— day of ——, 185 .

SECT. 2.—DUTIES AND POWERS OF GAMEKEEPER.

Gamekeepers, to be really useful, should be almost more than mortal; a perfect keeper should be handy, honest, clever,

and brave; he should be civil, yet not too good-natured; and, above all, he should *be fond of his business*. Without this last qualification, it is hopeless to expect a good head of game; and, even if you do obtain this point, yet you will have your gun, or perhaps your dogs, spoiled from some mismanagement on his part. When it is remembered that to do his duty a keeper must be out in all weathers, and at all hours—that he must run all risks in detecting the manœuvres of his opponents, and in opposing them when detected—and that, in addition, he has to be out early and late for the purpose of trapping and feeding—it will be seen that his task is no sinecure. A gamekeeper also should have a good knowledge of the laws affecting game, or he will be constantly leading his master into scrapes. With regard to the numbers required, it is scarcely possible to give anything like a direction, since they must vary according to the nature of the ground, and the number of poachers infesting it. In some localities, one keeper can easily look over and preserve 1000 acres of partridge-land and covert—whilst in others three or four would be required for the same extent of beat. Wherever footpaths abound, keepers must be in proportion. Manors with these nuisances in abundance can scarcely be strictly preserved, as it is almost impossible to prevent the poacher from recovering the footpath before he is caught or seen—that is, if he has his wits about him. It is seldom necessary to allow the keeper to use a gun, except in very extensive manors, when the head keeper should be allowed the privilege, for the purpose of shooting the hen-harrier, or other hawk. If for defence, the revolver is much better; and, in the hands of a steady man, who will not use it except in extreme cases, when his own life is attacked by numbers, it is a wonderfully useful weapon, and is equivalent to two or three assistants all armed with guns. All four-footed vermin should be trapped or poisoned.

The powers of the gamekeeper vary according to his possession or not of a deputation from a lord of the manor. If he possesses this he may seize for the use of the lord all such dogs, nets, and other engines for the killing or taking game as shall be used within the limits of the manor by any person not possessing a license. Not possessing a deputation, he cannot use these powers; but he may demand to see the license of persons sporting on the manor, and to obtain their names and places of residence. Their authority to require trespassers to quit is laid down in 1 & 2 Will. IV., c. 32, ss. 31, 32, 36; and to apprehend persons poaching by night under the acts mentioned at page 17. They have no power to act on the highway under the Poaching Prevention Act, and must call in the aid of a constable here.

Sect. 3.—Rearing of Game Naturally.

After the selection of the shooting-ground, supposing this to have been made in the month of February, or before that time, the duty of the keeper is to take such measures that the game on the beat shall be allowed to breed undisturbed by any of the many nuisances to the game preserver which are so common. No dogs, other than the sheep-dog, should be allowed at liberty, and on no account should pointers or setters be broken after the end of February, or on the moors scarcely so late. Shepherds' dogs are a standing evil, but as they must be tolerated, the only remedy is to watch their evolutions as much as possible. Many of them destroy the eggs of the grouse, partridge, or pheasant, or find them for their masters' profit, who often realize five shillings for a nest. It is better, therefore, for the keeper to be on good terms with the shepherd, and to be allowed to give him an occasional gratuity, than to be always quarrelling with him for his dog's peccadilloes. The affection of these men for their dogs is not astonishing, since they are their sole companions; and, consequently, any abuse bestowed upon their bosom friends is resented by all the means in their power. The poachers, also, are constantly on the look-out for eggs, and at the time of laying, they require nearly as much watching as in the commencement of the shooting season. It is a great pity that these men should be tempted as they are: for were there no market for eggs, they would have no object in taking them. Most of our great preservers, for the purposes of the battue, have recourse to purchasing eggs for artificial rearing, and often pay for those robbed from their own land. It should be made illegal, under a heavy penalty, and not as now only under a penalty of 5*s*., to buy or sell game eggs, since there can be no necessity for this traffic, and it leads to numberless crimes, and temptations to crime.

The keeper should also take care that his pheasants are well fed at all times, but especially at the pairing season, as they are very restless at that time, and are constantly quarrelling among themselves. The old hen of each hive or nide is always anxious, if alive, to retain her old nest, and to drive

the young hens away from her neighbourhood. If, therefore, the keeper is not on his guard at this time, the hens stray far off his beat, and make their nests in some spot where they easily fall a prey to the poacher at the end of summer, and it is impossible to avoid this entirely; but if the keeper has his ears and eyes open, he can easily detect the nest of nearly every pheasant on his beat, and if they are likely to be taken, he may then, and then only, as soon as the hen has laid her full number, remove them and place them under a couple of bantam hens. Hen-pheasants will spread themselves abroad, and no art will keep them closer together than they like, but the above plan may be adopted to save a great many eggs. There are many other situations in which the nest should either be disturbed if found early enough, or the eggs taken if found too late—as, for instance, in situations likely to be flooded, as ditches or hollow water-ways, or in clover fields, or vetches which will inevitably be mowed over before the time of hatching. There is no situation for the nest so good as the wheat or barley-field, especially the former.

Sect. 4.—Artificial Rearing of Game.

The artificial rearing of game is only to be had recourse to under the circumstances above mentioned; but in every large preserve, the keeper, if he knows his business, will always have to rear a very considerable number of pheasants as well as partridges by hand. The latter are the more difficult to bring up, and, luckily, do not require so often the care of the keeper, as they hatch nearly a month before the pheasant, and, consequently, are generally off before the mowing of the clover or the late vetches. In the early grass crop, however, many are mown over; and this is unavoidable, as the partridge's nest is much more difficult to find than that of the pheasant. It is commonly supposed that to rear these birds by hand great experience and care are necessary, but I believe that by attending to the following directions, three-fourths of those hatched may be reared in good feather. The great difficulty is to *hatch* them, for eggs are so easily spoiled by being shaken, that even in the keeper's pocket they are liable, by an unexpected spring or fall, to be injured. This is especially the case in the early days of sitting—the embryo chick is then so delicate that a very slight blow or shock destroys its life, and the egg becomes addled. If a hen can be reckoned on, it is far better to wait till about five or six days from the time of hatching, as the eggs will bear removal very well at that time, if placed in a basket full of warm dry wool. In this way I have removed eggs more than twenty miles, and afterwards hatched nearly all under a common hen of moderate size. The larger the hen the better hatcher she is; but if very large, her legs are so strong, and her body so heavy, that she is sure to kick and trample most of her young charge to death. Hence, though no better as a sitter, yet, as a rearer, the bantam is far the best. After hatching, let the hen alone for at least twelve hours, then remove her carefully, and place her in a properly constructed coop, which should be made as follows:—Let a box be made three feet long, two feet wide, and two feet high in front, sloping off to one foot at the back, and having a boarded floor. This box should have a lath front, with intervals to allow the young birds to pass out. This is the coop for the hen, but the young birds ought to have a further space of about two yards square to run in, fenced off by some means. I have succeeded best in rearing young pheasants and partridges in a walled garden, as they are then more safe from the attacks of the weasel, stoat, or rat. If this cannot be procured, then be careful in selecting a good aspect, sheltered from the east and north, and open to the morning sun. It should not be exposed to the incursions of common poultry, especially the turkey-cock, who is a very troublesome gentleman among young game. For food, the best thing is the ant's egg, if it can be procured in sufficient quantities; or if not, then maggots may always be supplied by a few days' notice, but they should be scoured, by placing them in bran for twenty-four hours. Oatmeal and eggs should be mixed up together carefully, and after tying up in a cloth, they should be boiled till they are hard. Then breaking the mass into small pieces, it makes an excellent food, and one of which the young birds partake with avidity. After they are a fortnight or three weeks old, soaked bread, or coarsely bruised and soaked barley, may be given; and soon after this, whole barley, in its natural state, may form the principal food; but scoured maggots or ants' eggs must still be given, and indeed they are necessary till the birds can be turned into the woods or standing corn, which they may be at about two months of age; after which they require watching, lest they should fall a prey to the poacher or to the fox. At first the young birds must be fed three times a day, but after the first fortnight, feeding twice a day

only is required. In cold and wet weather the outer run of the coop should be covered over by a cloth, and at all times by a net, if exposed to the hawk or other bird of prey.

YOUNG PARTRIDGES AND PHEASANTS are very subject to the pip, or gapes, in which the bird seems to be gasping for breath, a parasitic worm occupying the area of the windpipe. It is said that a daily pill, containing one grain of black pepper and half a grain of mustard, will relieve this disease, but I cannot speak from actual experience. Dry gravel mixed with ashes should be placed within reach, and in masses, so that the young birds may "bather" in it. The coops ought to be moved daily, as the stain of the birds is injurious to them. No water is to be given for the first three weeks; and afterwards, if diarrhœa comes on, give rice water instead, and boil some rice in alum water and give as food, mixed with their maggots or ants' eggs. In this way it may fairly be calculated that about one-half of the eggs brought home will be reared—one-quarter being addled, and one-third or quarter of those hatched generally dying of accident or disease.

SECT. 5.—PRESERVATION FROM POACHERS.

In spite of every precaution in rearing game, unless equal or greater care is taken to preserve it from the poacher and the attacks of vermin, it is useless to expect a good head at the shooting season. With regard to the poacher, everything depends upon the labourers on the farms. If they like to countenance the poacher, or if they unfortunately are poachers themselves, all the efforts of a keeper will be of little avail. The best plan is to make all the labourers feel an interest in the preservation of the game. Let every man receive at Christmas a certain sum proportionate to the head of game killed during the season, and the outlay will be found to be well bestowed, since it will go much farther than the same sum laid out in extra watchers. I have known 650 acres of land preserved entirely, in the neighbourhood of a large town, without any regular keeper, and with an outlay in the shape of presents to labourers certainly not exceeding 20*l.* a year. On this farm, hares were as thick as sheep, and partridges sufficient to allow thirty brace to be killed in three or four hours. All parties were in earnest in keeping poachers away, and the result was as I have stated. This shows what labourers can do if they like, and what they will do if it is made their interest to do so. They are either a great evil or a great boon to the game preserver, and he must make up his mind either to have them as warm friends or bitter enemies. The regular and systematic poacher is a formidable fellow, opposed to all law, and making a living in the best way he can. After a time, nothing comes amiss to him; and though at first he has taken to his trade from a love of sport, it has ended in his adhering to it from necessity, since he cannot get work when his character is known, nor can any man, after poaching all night, be fit for work in the day also. The existence and career of the poacher is the great drawback to the sportsman; and it almost justifies the strong desire which so many hold to do away entirely with all game, in order to get rid also of the tendency to poach. This is a question, however, which I shall not enter upon, as it concerns the legislator more than the sportsman. At present, the law permits the preservation of game; and it is believed that the evils attending upon it are more than counterbalanced by its many advantages. As good subjects, therefore, we have only to avoid encouraging the poacher; and the plan I have proposed, of making it the labourer's interest to discourage the system, is the most humane, as well as the most successful. Of regular poachers, there are four chief varieties, viz.—1st, the systematic London poacher; 2nd, the poaching gent.; 3rd, the regular rural poacher; 4th, the poaching labourer.

THE LONDON POACHER is almost always one of a gang, and they conduct their operations in a variety of ways. Sometimes they scour the country in dog-carts drawn by a fast horse, by which they are enabled to shoot along the sides of a road, either in covert, or by catching the pheasants on their feed, or by beating the stubbles or turnips adjacent to the road, or even invading the moors; as soon as a keeper or other person approaches, they take to their heels, and on reaching the dog-cart are soon out of sight. It is against these men that the regular labourer may be made the most useful. Few farms in the shooting season are without a labourer within a field or two of every point likely to be invaded; let every one of these be provided with a railway whistle, and let him blow it loudly as soon as he sees a suspicious person in his vicinity. This may be heard for a mile or more, and the keeper may very soon be made aware of what is going on. Besides, the whistle itself alarms the poacher, as it proves the existence of a good system of watching, and he prefers moving off to quieter quar-

ters. These men generally travel in parties of five, of whom one remains with the horse, and the other four either together surround a small covert, and command every side, so that a dog put in is sure to drive out everything to one or other of them, or else they take each side of the road, in the stubbles or turnips, &c. In this way a heavy load of game is often bagged by these rascals, by selecting a line of road studded with preserves, and suited to their purpose. By keeping within the number of five, they avoid the penalties under the 32nd section of the Game Laws, and only come under the 30th and 31st section, if they should be overtaken by the keeper, and can only be fined £2 each. They seldom indulge in night poaching, but are always ready to deal with the local poachers for the game which they may take in that way.

THE POACHING GENT. is generally a man who is ardently fond of shooting, and yet has not the opportunity of indulging his appetite for sport, for want of land to shoot over. He, therefore, is constantly trespassing upon the lands of his neighbours, and of course subjects himself to the penalty of two pounds on conviction for each offence. He is almost always, however, so good a shot, that the produce of his gun enables him to pay this sum, because he is so wary as to choose his opportunity, and often to escape detection for a considerable time. He knows where he is least likely to be caught, and the times which will suit him best, and acts accordingly. There is seldom much difficulty in dealing with these men, and the harm they do in well-preserved districts is very trifling. It is only in half-preserved farms that they are to be dreaded, and there they often get the lion's share of the spoil. On the grouse-moors, an inferior grade of this class is very destructive to game—he is the sporting miner or blacksmith, or perhaps the denizen of some neighbouring small town, in which he *ought* to be standing behind the counter of a whisky shop, or very often he is a shoemaker or tailor. These men are not regular night poachers; but they are infected with a love of sport, to gratify which they brave all dangers, and encounter even the risk of the county jail. They wait for days, till the keepers are engaged in some particular direction, and then, by keeping on the sides of certain hills, or by other means suitable to the country, they are enabled to shoot an enormous quantity of grouse.

THE REGULAR RURAL POACHER is the chief bane to the sport; for, though the London hand is very successful occasionally, he does not often pay more than one or two visits to the same preserve; whilst the rural one is always on the look-out. It requires nearly as many keepers or watchers as there are poachers to be quite safe against their incursions; and even then, if a watch is put upon every known man in the neighbourhood, they will outwit you, by giving intelligence to some distant friends in the same trade. They pursue their operations partly by day and partly by night. If by day, their plan is to select a small covert which has just been visited by the keeper, for whose round the poacher has been long waiting in concealment, and then as soon as he is out of sight, the poacher sets his wires and nets in a very few minutes, and enters and disturbs the coppice, either with or without a dog taught to run mute. In five minutes more every hare is caught, and quickly disposed of in some secret spot, often a labourer's cottage, till night-fall. In this way, also, a few pheasants are taken, but not so easily as the hares, as they do not run so readily as the latter, and if sufficiently roused to do this, some one or more are sure to give notice to the keepers in the distance by flying off to another covert, which of itself is sufficient to arouse suspicion. At night the tricks of the regular poacher are most ingenious, and are constantly varying in proportion to the discoveries of the keepers. In moonlight and wet windy nights the poacher's harvest is made. He can then see his game, without being heard so distinctly as he would be on a quiet evening. He shoots the pheasants on their perches, either with the air-gun or fowling-piece, which is made to take to pieces easily, for the convenience of putting in the pocket. Grouse and partridges are chiefly netted; but the former may be more easily shot with the air-gun at night, since the net is much interfered with, in consequence of the heather preventing its acting; the poacher, however, has no difficulty with either, if he can only guess pretty nearly where they are, and this he takes care to do by watching them with a glass at the close of evening. After taking his bearings at that time, he is enabled to drop his net over the place without the trouble of using the stalking-horse or the wide drag-net. The only certain prevention against netting is to watch the birds at night, and disperse them; but this makes them so wild, as to spoil the subsequent shooting. Bushing the stubbles interferes with the drag-net,

but not with the bag-net. It is a very good plan to go round every evening, just before the calling of the birds, and put a small bush, or even with a spade throw a lot of fresh earth, on the last night's place of rest, which is known by the droppings; this prevents their settling near the same spot, which they otherwise would do, especially grouse, and of which fact the poacher takes advantage by marking their droppings by day, in order to find their settling place at night. Hares are taken by gate-nets in the fields, or by wires and bag-nets in the coverts. It is a very remarkable fact, that these cautious animals rarely use a hedge-meuse by night, preferring the gateways, apparently from a fear of being surprised by the stoat or fox—whilst by day, the reverse is the case; the poacher, therefore, cannot take them on the feed with the wire, except in going in or out of the covert, but has recourse to the gate-net, which he fixes to the gate between the feeding field (usually a piece of swedes or clover) and the covert; then sending a mute-running dog into the field, he waits the coming of the hares into the net, and takes them out as fast as they run into it. There is no certain way of avoiding this mode of poaching, excepting by careful watching; the chief guide is the scream of the hare when caught, which may be heard on quiet nights, but it is a practice very easily pursued by the poacher, with little fear of detection, if he is a clever and experienced hand. A practice has lately been introduced of setting wires in the runs made in the middle of feeding fields; it requires the wire to be very carefully set at a certain height, by means of a twig, and is very destructive. It is also very difficult to detect; but as the poachers cannot find them except in very open moonlight nights, the keeper knows when to have his eyes open.

Lastly comes the POACHING LABOURER, a perfect pest to the parish in which he resides. He is constantly committing a breach of trust, and does it at so little risk, as often to escape detection for a long time. These men have generally a little terrier, which is capable of being taught to do everything but speak, and assists in a wonderful degree in the capture of game. They have also an old gun which takes apart, and may easily be concealed under the smock frock. If a covey of birds is seen to collect near the cottage, a slight noise is made, and up go their heads, at which moment the gun goes off, and they are all dead at one swoop. The cottage is generally near a road, and some hedge-popping boy is made to bear the blame. Again, these men have generally small gardens, in which are parsley, pinks, etc.; these are a favourite food of the hare. She therefore is almost sure to visit them, and in her passage through the garden-fence of course makes a meuse, or at all events, she leaves her mark or prick in the soil; if she goes through a gate, this leads to her destruction the next night by wire, gin, or net; and no one can possibly prevent it, even with the eyes of an Argus. Pheasants, also, are sure to come within their reach occasionally, and if they do, they are wired easily enough. A man, for instance, is put to hedging or draining, and is on the ground by six o'clock in the morning, a time when pheasants have not left their feed; he has only therefore to lay a few horsehair loops along the ditches, and by gently driving the pheasants into them, apparently in the course of his work, he captures, every now and then, the value of a day's work in a few minutes. Of course, he conceals the booty till night.

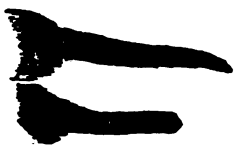
Such are the most common tricks of the poachers, but the most successful are those who invent plans of their own; the keeper has enough to do to outwit them, and his grand object should be to find out their plans, and circumvent them—it is diamond cut diamond. A reformed poacher, if really reformed, makes the best keeper, but, unfortunately for this purpose, their exposure to night air, and to wet and cold, and their habits of intemperance, have almost always destroyed their constitutions before they think of reforming. It is only when worn out as poachers that they think of turning round and becoming keepers. When the head-keeper is really up to his business, the poachers stand a very poor chance, especially if the master is ready to support his servant with his influence and protection. In every case, whether on the open moors or in enclosed districts, the first thing to be done is to make out a list of all the poachers likely to visit your manor; then discover their habits and haunts, and the kind of game which they excel in taking. Next, get some steady, hardy, and useful watchers, if possible, strangers to the locality, and therefore not likely to be influenced by the ties of affinity or friendship. Let these men speedily make themselves conversant with the appearance of all the poachers on your manor, or your head-keeper can initiate them by degrees. They should all have glasses, and be made conversant with their use; for even in a comparatively small beat, it often happens that a poacher cannot be approached within

many hundred yards, and yet it is quite impossible to speak with certainty to a man's identity at the distance of a quarter of a mile. When these men know their duties pretty well, each should have one or more poachers allotted to him, and should always be able to give an account of his or their whereabouts. He does this partly by his own powers of watching, but chiefly from information gained from other parties. By such a mode of proceeding, almost any gang of poachers may be outwitted; and they seldom show fight when they find themselves no match in brain, though in personal prowess they may be superior. Intellect and pluck will always be served, even when mere brute force has totally failed.

SECT. 6.—PRESERVATION FROM VERMIN.

But, in addition to the attacks of the poachers, the keeper has also to ward off those of the great variety of vermin which attack game. Here, however, a good man is always rewarded; for, though he may be outwitted by the arts of a first-rate poacher, which are constantly varying, he has only himself to blame if he allows anything beneath his own level to circumvent him. Vermin are endowed with the same instincts now as they were thousands of years ago; and as these instincts are well known, he has only to take advantage of that knowledge, and destroy them. The following is a complete list of the various kinds infesting Great Britain; their habits should be well studied, and the different modes of taking them understood, by every man who sets up for a regular keeper. I shall therefore take each variety separately, and describe its appearance, its habits, its prey, and the best mode of capture.

THE CAT—(*Felis Domestica*).—It was formerly supposed that this was merely the wild cat tamed, but more recent investigations have led naturalists to conclude that they are two distinct species. The chief difference consists in the tail, which is long and taper in the house cat (*fig.* 1), but blunt and shorter in the wild cat (*fig.* 2).



The wild cat is now no longer found in this country, and its ravages therefore among game are no longer to be feared. Its place, however, in this respect, has been taken by its substitute, the domestic cat, which, in her proper sphere, is of the greatest importance to mankind. Like most other blessings, she is liable to become a curse; and that is most assuredly the case when she takes it into her head to invade the game preserve. Here she is as different from her household character as it is possible to conceive. She is no longer ready to be noticed and fondled, but is wild and wayward, retreating to some secure place on the approach of man, and only venturing out at night. Her ravages are so extensive, that it is fortunate that she is easily taken by trap, which should be the ordinary steel trap, of middle size, between the fox-trap and that for the rat. The trap should be rubbed with the herb valerian, if easily procured, but it is seldom positively necessary, as the cat is almost always readily caught. The trap may be baited in the usual way with a small bird or young rabbit. If there is the slightest difficulty in taking the cat, it is only necessary to use three of these traps sunk in the earth, and surrounding a live bird tied to a stake, elevated about a foot from the ground, and she is sure to be caught. A more minute description will be given of this trap under the Fox. The gun may be used if necessary, but a cat will carry off an enormous quantity of shot; and even a bullet, if put into her anywhere but in the brain, is by no means sure of destroying her.

THE FOX—(*Vulpes Vulgaris*).—This is, in some districts, one of the worst kinds of vermin, and carefully trapped—whilst in others it is as carefully preserved. In our present list it must appear as an enemy, although numerous and warm controversies have taken place as to its game-destroying powers. No doubt, the fox may be preserved in the same coverts with the pheasant; and, I believe, if supplied with rabbits, he will not often fall upon any other game, and certainly not upon the hare, to which the rabbit is always preferred. The scent of the fox is so strong, that most animals are aware of his proximity, and therefore they are able to keep clear of him, except on rare occasions, of which he does not hesitate to take advantage; the pheasant, for instance, seldom ventures within his reach; if disturbed, this bird has recourse to his wings, and does not often run into danger fast enough to be off his guard against the scent, though he will often run down an open ride, or in the fields, where he is secure from this insidious enemy. If, however, a pheasant

is wounded, he is sure to fall a prey to vulpine attacks, and so is the wounded woodcock or snipe; but this is of very little consequence, and such a poor maimed creature as a wounded bird is better out of its misery. Keepers are great enemies to the fox, and aggravate his faults, for two reasons; first, because he interferes with their chief perquisites, the rabbits; and secondly, because he is the only legitimate scapegoat for their shortcomings. If the complaint is made that there is no game, the answer is always ready, "Why, sir, if you will preserve the foxes, you must not expect so much game." There is no other game-destroyer that a keeper can charge with the loss, without damaging his own character, since, in proportion to the scarcity or abundance of all other vermin, is his own character raised or depressed. The great misfortune is, that the keeper is induced to play all sorts of tricks, in order to comply with the directions of his master, to preserve foxes as well as game, which he fancies are conflicting in themselves, since they, no doubt, are opposed to his own wishes and interests; but being compelled to do so, he proceeds on a plan which enables him to find foxes, though bad ones—thus keeping the order to the letter, but breaking it in spirit. Half of the foxes found in game preserves are only just turned down when the hounds are thrown into covert, or, when at large, have been fed daily with rabbits close to their earths, by which they are rendered so fat and lazy, that they cannot stand five minutes before a good pack of hounds. In districts where no hounds are kept, but where game abounds, as in the Highlands of Scotland, and in some parts of Wales, there can be no reason for the preservation of foxes, and there they should be killed down as closely as possible. They are not very difficult to trap with the gin of full size, four, five, or six of which should be set round a dead lamb or rabbit, with the inside exposed as a means of spreading the scent, and partly buried in the ground as if for a dog. Of course, the traps should be carefully fastened down with a short chain. The best way to set them is to dig a piece of ground well over, about five or six feet square, then take out four, five, or six spades full of earth, each leaving a hole sufficient to contain a trap; in these lay the trap, and fix it by driving in the peg, concealing the chain and every part but the spring and the jaws and plates. The trap should then be set, propping up the plate with a bit of stick, to which a string is attached, in order to withdraw it; then cover all up with finely chopped grass or moss, and withdraw the stick by the string. If the fox is very wary, it is better to leave the traps unset for a night or two, and throw down, every night, a rabbit or pigeon on the ground at some little distance, but clear of the traps. When these have been taken freely for a couple of nights, a similar bait should be placed in the middle of the traps, without handling it, or treading on the newly-levelled earth, or the covering grass, which would at once raise the suspicions of the fox. If these precautions are taken, the most wary will generally fall. Chaff answers remarkably well to cover these traps with, but it has the serious evil of attracting the pheasants, who come and search for grain, and in that way sometimes are caught, instead of the fox or cat, for which it was set; the grass or moss ought to be very short and light, or it may catch in the trap, and prevent its acting. If the keeper has only one trap, it should not, as is often done, be set in a run, for fear of its catching the game, but an open space a short distance off the run should be thrown into it, by making a gap, if there is not already one, and in that gap the trap should be laid; the bait should be raised, in this case, on a stub or short stick driven into the earth, which should be about as tall as the animal to be taken can just reach with his nose, so that he will walk on his toes, and not crouch on his belly, in reaching it. In this way the leg is well seized, and not the toe only, or what is still worse, altogether lost by the body being first grasped, and then slipping out of the trap; thus, for a fox the bait should be twelve inches, for a cat eight inches, and for a weasel or polecat four inches above the level of the plate of the trap. The keeper should spring these traps every morning, and oil them or repair them, with the file and hammer, when necessary to their perfect acting.

THE MARTEN—(*Martes Abietum et Foina*).—The marten, the polecat, the stoat, and the weasel all belong to the sub-family *Mustelina*. There are two kinds of martens,—the pine and the beech marten, the former being more common in the north, and the latter in the southern parts of the island. The martens inhabit large woods, living in the hollow of trees, or in an old magpie's nest, or squirrel's. They have from three to four young. They feed on game and other birds, or mice, rats, and squirrels. In colour, they are of a reddish-brown, and are the largest of the mustelina or weasel-like family. This sub-family have all long bodies, short legs, long tails, small head,

with powerful jaws, sharp teeth, an insatiable desire for blood, and great tenacity of life. They all prefer the blood and brains to the rest of the body, and do not eat the flesh except from necessity. Being all so much alike in their habits, I shall defer the description of their mode of capture till I have described them all.

THE POLECAT—(*Putorius Fœtidus*).—The polecat, fitchet, or foulmart, is very common in this country, and is the most destructive to game of all vermin, except, perhaps, the domestic cat, when become wild; it will even surprise the hare in her form, or the pheasant on her nest. They generally make a short burrow in the side of a sandy bank, which emits a tolerably strong scent of the animal, and is thereby easily known by the keeper, who proceeds at once to dig the animal out; this, however, he cannot always do, as the polecat is very fond of choosing the root of an old tree under which to make his burrow. Farmers are apt to suppose that this creature does them much good in destroying rats; but he is too bulky to follow them in their runs in the wheat ricks, and they are too wary to be caught napping out of them. The polecat is smaller than the marten, and of a blacker colour, approaching to a dark tortoise-shell.

THE STOAT—(*Mustela Erminea*).—This is the next in size of the *Mustelina*, and is even more voracious and blood-thirsty, in proportion to its size, than the polecat. It is, in summer and in mild winters, of a reddish brown, with a black tip to its tail, but it becomes more or less white in winter, according to the degree of cold, always, however, retaining the black tip to the tail. It, like the polecat, burrows in the ground, making a smaller hole, and not being easily discovered in consequence, or by its scent, which is not nearly so strong as that of the polecat. It pursues all kinds of game, and destroys the eggs of pheasants and partridges with great perseverance. It should be diligently trapped and exterminated.

THE WEASEL—(*Mustela Vulgaris*).—The smallest of its tribe, never being more than seven inches in length from the nose to the tail. It resembles the stoat in most respects, but is less hairy, and its tail is shorter in proportion, and without the black brush at the extremity, which, in the stoat, forms that remarkable hairy tuft so conspicuous in the ermine-fur. The weasel makes longer jumps or bounds in its run than either of its congeners, that is, in proportion to its size. Its habits resemble those of the stoat and polecat, and it is quite as bold and voracious, but is not able to cope with the hare or pheasant, though it is said to fasten on the back of the hare, and suck its blood for miles, till the poor creature sinks from exhaustion.

MODE OF TRAPPING THE MUSTELINA OR WEASEL KIND.—They may all be taken in two kinds of traps—the gin or steel trap, and the box-trap. The gin should be of the small size suited for rats, or for the marten and polecat, a little larger. It should be set a little out of the run of the animal wherever that has been discovered, and should be buried as for the fox, and covered over with feathers, or fine moss or grass. The bait should be an egg impaled on a stick, and the contents, half escaped, are then easily scented, or part of a pigeon or rabbit, especially the liver and entrails. By taking the precaution to set these traps a little out of the hare and rabbit runs, these latter animals will escape, especially if the entrails of the bait are rubbed against the sides of the opening which leads to the trap, as game have all a dislike to the smell of blood and garbage. In no case should the bait be placed upon the bridge of the trap. If the polecat or stoat has been carrying off the eggs from a nest as fast as they are laid, ascertain, if possible, its track in reaching the nest, and there place your trap, with an egg impaled a little beyond it. It must not be too near the nest, or the parent-birds may be caught. Next to the gin, the box-trap is the most useful, and it has this advantage, that it never admits the hare or the pheasant, and if by chance the rabbit enters, it is not injured. It consists of a long box, about nine or ten inches square, with a slide at each end, which is held up by a long arm or lever proceeding to the centre of the box. Here the two are held down by a catch, which, when set, holds up a small stage at about half or three-quarters of an inch from the floor of the box. Hence, any animal in passing through the box is sure to tread on the stage, which, by the way, ought to be made so as to occupy the whole width of the interior. By placing the bait on both sides of the stage, at whichever end the animal enters, it is encouraged to proceed, because it first cautiously seizes and devours the one half nearest to it, which should not be large enough to satisfy its hunger, and then proceeds over the stage to lay hold of the other portion, when, on placing its forefeet on the stage, the catch is released, and the slides at each end fall and enclose it. The slides should not be made to lift above three or four inches, for fear of the hare entering. When set, the

box ought to be placed in a run or dry ditch, and the space at the sides of each end should be filled up and gradually assimilated to the run or ditch by means of stones, or rubbish, or earth, so as to compel the vermin to enter or turn back. All this should be done in as cunning a manner as possible, so as to escape the observation of these animals; but they are not nearly so difficult to deceive as the fox, the rat, or the magpie. They may also be poisoned by arsenic, but it is a dangerous plan, as the poisoned baits are liable to be devoured by dogs.

THE RAT — (*Mus Decumanus*). — This noxious animal is too well known to need description. It breeds so rapidly, as to overwhelm the farmer if not kept down, bringing forth twelve or fourteen young ones three or four times a year. It is not very injurious to game, unless it is more than usually abundant, as it has generally the wheat-rick of the farmer, or his hen-roost or pigeon-cote to attack, in preference to game; still it sometimes happens that the more than commonly voracious rat attacks the eggs of the pheasant or partridge, and if so, he must be destroyed if possible. It is very difficult to trap them, and the best mode is to ferret out or poison them. Very often the rat takes up his abode on the banks of artificial water, which is generally near some game covert, and in that situation he is very destructive to waterfowl as well as young game. Here the following method of trapping will answer well:—Get a wooden frame, made of two cross pieces of wood, with a block in the middle; upon these set four common rat-traps, loosely let into the pieces, with the spring towards the outside, and weight the whole so that when floated in the water, the traps will just sink an inch below the level of the water; then by placing a bait on a short post, raised about six inches above the middle block, the rats, in swimming to it, or raising themselves to reach it, are almost sure to strike one of the traps with a hind or fore leg, and as the traps are only placed loosely on the cross bar, and fall off suspended by a string, the rat is drowned at once, and does not prevent others from incurring the same fate. This is the only certain mode of trapping rats; and though the poisoning of them is easy enough, it has many disadvantages—firstly, it is dangerous to children and dogs; secondly, the dead rats are apt to cause foul smells in any neighbouring house when they die. To effect this object, arsenic should be mixed up with malt-dust, or wheat-flour, in the proportion of half a pound of flour to an ounce of arsenic; then with water make into a paste, and drop a few drops of oil of aniseed in, of which rats are very fond. The mass should be broken up into small pieces of all sizes and shapes, not round like pills, but just as they happen to break by chance; then taking one or two of these in a spoon, and carefully avoiding the contact of the hand, which the rat easily detects, drop them into such places frequented by rats as are too narrow for dogs or children to reach. By dropping them thus, as it were accidentally, one or two in a place, the suspicions of the rat are lulled, and he generally eats them greedily. If eaten, death is pretty certain; but sometimes they cause vomiting, and the rat escapes. Phosphor paste, now generally sold at the oilshops of London and the large provincial towns, is also a pretty sure poison, but cunning old rats are not always to be taken in by it.

THE HEDGEHOG — (*Erinaceus Europæus*). —The hedgehog is only destructive to the eggs of game, never eating the living animal. It ought, however, to be destroyed; but it is not nearly so dangerous as any of those which I have already described. It is easily found by the terrier, and may then be destroyed by the keeper.

THE OTTER — (*Lutra Vulgaris*). — This creature is a kind of water-polecat, and is as destructive to fish as that fierce little animal is to game. In general form it also somewhat resembles it, but its head is more blunt, its fur shorter and thicker, and its feet are webbed. It is amphibious in its habits, and is soon drowned if kept under water more than a few minutes at a time. It measures usually, from the nose to the tail, nearly two feet, and the tail itself is often sixteen inches in length. The eyes both look upwards, and it is thus enabled to watch the fish while lying below them on the bed of the river, and therefore unseen by them. The footmark, or *seal* of the otter, is easily recognised by a round depression corresponding with the ball of its foot. Its burrow is always entered under water, and it admits air only by a small hole worked from the inside, and not readily found. In some districts the otter is hunted, and affords good sport, and when that is the case, it should not be interfered with; when, however, no otter hounds are within reach, the otter may be trapped in the same way as I have recommended for the rat in the water, excepting that it is useless to bait the trap, as the otter will not touch a dead fish. The traps should be set near where the holt is, or close to any of the ordi-

nary landing-places of the animal, which may be known by the "seal" or "spraints." Of course the whole apparatus must be larger, and the traps should be of the full size for a fox; they should be sunk three inches. It is a more certain trap for the otter than even for the rat, as the former is not so sagacious an animal.

In the various parts of Great Britain we find a long list of birds of prey, all of which are more or less injurious to game, from the eagle to the merlin. But there are few districts in which all are found; the larger kinds are chiefly to be met with in the inaccessible parts of Scotland and the Hebrides, as well as in some parts of Ireland, whilst the smaller varieties are very troublesome in the woodlands of the south. At the head of the list stands

THE GOLDEN EAGLE—(*Aquila Chrysaëtos*).—This beautiful bird is now seldom found in Great Britain, and is very rare, except in the most remote districts of the North. It can only be confounded with the osprey in this country, since there is no other bird of prey at all near these birds in size, which is about that of an ordinary turkey. The golden eagle is a rich golden brown colour, with powerful hooked beak, and strong talons, and destroys large game to a fearful extent, as well as young lambs. The flight of the eagle is very beautiful, and they generally hunt in pairs. The hen lays two eggs of a creamy-white ground, with brownish spots; the nest is very rudely constructed, in some very inaccessible crag or rock, and is merely a heap of sticks and grass.

THE OSPREY—(*Pandion Haliaëtus*)—Is only found on the sea-coast, or very near it. It is of the same size as the golden eagle, but differs in colour and in food, which is composed entirely of fish. In the salmon fisheries it sometimes is a sad depredator, especially at the salmon leaps, when they happen to be near the sea. Here it will seize the fish as they are struggling up the fall, and if once it takes to this dainty, it is sure to return to it; it is less wary than the golden eagle, and may generally be approached with care while fishing. Both these eagles must be shot, as they are very difficult to trap, and their nests are generally fixed in such an inaccessible crag, as to be almost beyond the reach of man.

THE KITE—(*Milous Regalis*).—The kite, or gled, is very common in the wild districts of England, and is a game-destroyer, though not to any great extent. It may always be recognised by its long, forked tail. Its length is more than two feet. The legs are yellow.

THE BUZZARD—(*Buteo Vulgaris*)—Is considerably less than the golden eagle, being about twenty-two inches from tip to tail, and is very different in general aspect and habits. When seeking for food, it sits at the top of some high tree, and generally on a dead branch, keenly watching for the appearance of some young rabbit or hare, or for a brood of grouse or pheasants. As soon as these come in sight, it darts down and picks up its prey, without alighting, and is sure to seek the same branch with the purpose of devouring it. The buzzard builds in trees; its eggs are generally four, of a whitish colour, with pale brown spots.

THE PEREGRINE FALCON—(*Falco Peregrinus*).—The blue or peregrine falcon is very destructive to all game, but it has been almost exterminated in this country. It is one of those best suited to falconry, which has been one reason of their scarcity. They build in the most inaccessible parts of the mountains, and can rarely be trapped. The hen is very beautiful. Back of head, dark slate colour; outside of wings and back, lighter slate; under part of neck and throat, white; breast of a buff ground, with dark brown oblong spots or streaks. Length, from point to point of wings, forty inches; from tip to tail, seventeen inches.

THE HOBBY—(*Hypotriorchis Subbuteo*)—Is a bird of passage, and only a summer visitor; it can therefore scarcely be considered a dangerous game-destroyer, nor can it easily be taken at that season.

THE MERLIN—(*Hypotriorchis Æsalon*).—This spirited little hawk is, among the falcons, very much like the weasel among the *Mustelina*, being as bold as a game-cock, as voracious as a shark, and as nimble as an eel. It is said to attack the grouse, and sometimes to succeed in capturing them by the force of the blow. It is a very fast bird for its size. The male and female are nearer of a size than in the others of its family. It is of a bluish brown on the upper parts, with a deep buff ground for the breast, studded with dark streaks. Its entire length is only thirteen inches. It seldom weighs quite eight ounces. These three species of the falcons are all used in falconry, and are all difficult to trap.

THE HEN-HARRIER—(*Circus Cyaneus*).—The plumage of the male and female varies so much, that for a long time they were regarded as two different species. The former is of a light blue, while the latter is brown. Both have white rings on the tail, and a black mark on the ends of the wing feathers. They are about forty inches across the wings, when extended.

In length they are about seventeen inches. They are dreadful destroyers of the grouse, and beat their ground in the most regular way, crossing it like the pointer or setter, and flying close to the surface, and swooping on the unhappy grouse or partridge the moment their eyes catch sight. They build their nests on the ground, in heather or thick bushes. These should be diligently sought for, as the young birds, once found, are a sure mode of trapping the old ones.

THE SPARROW-HAWK—(*Accipiter Nisus*).—Considerably smaller than the last, never being more than fifteen inches in length, and the male seldom more than nine. It is chiefly injurious to the game preserve, from taking off the very young partridges and pheasants, upon which it delights to pounce. It builds upon high trees, laying four or five eggs, of a white ground, with variable reddish marblings.

THE KESTREL OR WINDHOVER—(*Tinnunculus Alaudarius*).—It is commonly supposed that this bird is a very bold destroyer of game, but I am quite satisfied this is a great mistake—it will always prefer the mouse to any bird, and I believe rarely attacks any other prey than the mouse or the frog. It will not attack the young of the game birds, and its only fault is, that it will sometimes take the very young leveret. As, however, these little things are seldom visible, and as the kestrel hunts solely by sight, it is very seldom that this accident happens. This bird may fairly be allowed to benefit the farmer, without injury to the game preserver. It is very ornamental in its flight and general appearance, and when young is more like the owl than any of the hawks.

MODE OF TRAPPING WINGED VERMIN.—Nearly all these birds may be taken with the steel trap, which should be variously set, according to the habits of the particular bird. The buzzard is not very difficult to trap, though it does not alight to take its prey, and it may also be shot while perched on its bough. A circular trap has lately been invented, and is sold at all the gun-makers, which requires no bait, and is simply to be placed on those boughs which are frequented by these birds. It requires, however, far more watching to detect their haunts than to get near them with the gun. If the attempt is made to shoot this bird, it generally requires the rifle for its destruction, as it is usually seated out of the distance suited to an ordinary fowling-piece. The harrier is somewhat difficult to trap, but it may be taken, and so may the buzzard, by means of a dead grouse or partridge set up on a little mound of earth, and studded with large fish-hooks. Both of these birds make a swoop at their prey, and in that way they may often be caught with the hooks, which should have their points directed towards the tail of the bait, and should project about half an inch above the feathers. One should be firmly on the back, one on the head, and one on the shoulder of each wing. The hook on the head is the most likely one to catch, and it should have a firm attachment by means of a line a few inches long. The hooks will not hold the hawk long; but by placing four concealed rat-traps around the bird, the hawk, in its struggles to free itself, is sure to strike one, and is then securely held; but the taking the young of these birds is by far the most easy way of destroying them. It is very much less trouble to watch the bird to her nest than to trap her, or to shoot her even. When the nest is discovered, and while the hen is sitting, a ball may often be sent through the old bird, and the eggs will not then require to be reached, as they will of course be addled. As soon as the young birds are laid hold of, it may fairly be concluded that the old ones are in your power; for by fastening them down alive in the middle of three or four concealed traps, the old birds are soon tempted into their jaws. Each young bird should be fixed in the centre of a circle of traps at such a distance apart, that both old birds may be caught.

It is often said by keepers that they can dispense with the GUN in destroying these birds of prey; and many masters strongly object to the use of it, from the fear of its being abused; but in districts where the hen-harrier, or the buzzard, or the peregrine falcon abounds, the gun *must be used*, or a sad loss of game will be the result. The nest cannot always be found or reached; and sometimes it is on another property altogether, in which case it cannot of course be taken without the consent of the adjoining keeper, who is as jealous of his rights and distinctions as a Turk.

THE BARN OWL—(*Strix Flammea*)—Is generally considered very destructive to game, but I believe erroneously so. Like the kestrel, it lives almost entirely on mice and rats; it will, however, when it has its young to provide for, attack the leveret or the rabbit, and perhaps the young pheasant; but, on inspecting the casts of these birds, I have never seen any quantity of feathers or fur, which would inevitably occur if they fed to any extent upon game. The nest may be easily taken, or the owl

trapped or shot. A great parade is generally made by the keepers of the owl, as it is a bird which makes a great show among the list of killed, and yet is not very difficult to destroy.

THE RAVEN—(*Corvus Corax*)—Is not common in this country, and is principally met with in wild districts, like the New Forest, or Dartmoor. The raven is a voracious bird, and nothing comes amiss to him, from carrion to eggs or fish. It breeds in the holes of high rocks, or on very high trees, and the nest is more difficult to take on that account. The eggs are four, of a dusky green. It is a very destructive bird to game, and should not be suffered to live, as it has no good qualities like the owl and kestrel. It is extremely wary, and difficult to shoot or trap.

THE CROW—(*Corvus Corone*)—Is a smaller edition of the raven, which it resembles in every respect but size. It is too well known to need description.

THE JACKDAW—(*Corvus Monedula*)—Is also very much of the same habits as regards game, but is only obnoxious to the eggs. Its nest is seldom within the keeper's reach, being almost invariably in some old tower or church steeple.

THE MAGPIE—(*Pica Caudata*).—This pretty, lively bird is one of the most persevering destroyers of the eggs of the game birds. It ought to receive no mercy, but it is a very shy and cunning bird. Its nest may almost always be found, and the young taken and used as decoys, as I have already described. It builds in the tops of trees, high and low. The nest is domed, and built of a mass of sticks curiously interlaid.

THE JAY—(*Garrulus Glandarius*).—This beautiful bird resembles the magpie in its thirst for eggs, but is not quite so voracious.

THE HERON—(*Ardea Cinerea*).—The heron is only injurious among fish, which form its sole food. It is often preserved with great care, on account of its association with baronial sports. It is now, however, seldom used for hawking purposes, and, wherever the fisheries are preserved with care, herons are diligently destroyed. It may be shot, or hooked, or trapped under water by the floating trap, as used for the rat, placing the bait in the same way, but fixing it in the shallows.

THE POISONING OF WINGED VERMIN.—I have already alluded to the different modes of trapping the winged varieties of vermin. It remains for me only to speak of the modes of poisoning them which are sometimes adopted. For the eagles, hawks, buzzards, and kites, arsenic is the best; but there is great danger in using it, lest some dog should feed on the poisoned bait; the liver is the best part in which to insert the arsenic, as it is generally the choice morsel first selected by them all, or the brain, as is the case more particularly in the falcons and the sparrow-hawk. For the raven, crow, magpie, and jay, strychnine acts well, and they will take it with great facility. These poisons should never be trusted to any one but a person of good character for care and integrity, as they are equally destructive to man. They may best be used in the egg, by making a small hole, then inserting five grains of either, and closing the hole again with a piece of paper and a little collodion. In this way, there is less chance of any dog or child getting to it, as the egg may be placed in the fork of a tree, out of sight from below.

SECT. 7.—ENGLISH GAME LAWS.

Having provided for the procuring and preserving game necessary to the sport we are considering, it is next desirable that this should be conducted agreeably to law. The following Abstracts of the various Acts are therefore given; but it will be requisite, before proceeding to any legal prosecution, to obtain the Act itself, or the assistance of a professor of the law. The abstracts, however, will be sufficient for the sportsman's guide in ordinary cases.

The principal laws which now regulate the preservation and sale of game in the three divisions of the United Kingdom are as follows, independently of the common law of trespass:—

ENGLAND AND WALES.

1 & 2 Will. IV., c. 32—(Trespass, &c., known as *the* Game Law).
11 & 12 Vict., c. 29—(Killing Hares).
9 Geo. IV., c. 69 } (Night Poaching).
7 & 8 Vict., c. 29 }
23 & 24 Vict., c. 90—(License).
25 & 26 Vict., c. 114—(Poaching Prevention Act).
26 & 27 Vict., c. 118—(Poisoned Grain Prohibition Act).

SCOTLAND.

2 & 3 Will. IV., c. 68—(Trespass, &c.)
11 & 12 Vict., c. 30—(Killing Hares).
9 Geo. IV., c. 69 } (Night Poaching).
7 & 8 Vict., c. 29 }

23 & 24 Vict., c. 90—(License).
25 & 26 Vict., c. 114—(Poaching Prevention Act).
1621, c. 31—(Property Qualification).
1707, c. 13 } (Fixing Close Times).
13 Geo. III., c. 54 }
26 & 27 Vict., c. 113—(Poisoned Grain Prohibition Act).

IRELAND.

13 Rich. II., c. 13 } (Qualification).
10 Will. III., c. 8 }
9 Geo. IV., c. 69 } (Night Poaching).
7 & 8 Vict., c. 29 }
23 & 24 Vict., c. 90 } (License).
5 & 6 Vict., c. 81 }
23 & 24 Vict., c. 113, s. 43—(Repeals License for Killing Rabbits).
25 & 26 Vict., c. 114—(Poaching Prevention Act).
27 Geo. III., c. 35—(Trespass in Pursuit of Game, &c.)
37 Geo. III., c. 21—(Close Times).
26 Vict., c. 19—(Repeals Close Time for Hares).
26 & 27 Vict., c. 113—(Poisoned Grain Prohibition Act).

THE PROPERTY IN GAME, as between the landlord and tenant, resides in the latter, subject to certain exceptions which are defined in Sections 7 to 12 of the 1 and 2 Will. IV., c. 32.

ABSTRACT OF GAME ACT.

1 & 2 William IV., c. 32.—Oct. 5, 1831.

Sec. 1.—Repeals old statutes.

Sec. 2.—"Game" to include hares, pheasants, partridges, grouse, heath, or moor-game, black game, and bustards.

Sec. 3.—Any person killing or taking game, or using a gun, dog, net, or other engine for that purpose, on a Sunday or Christmas-day, is subject, on conviction by two justices, *to a penalty* not exceeding 5*l.* and costs. Limits the taking of game as follows:—

Partridges not to be taken from . . .	Feb. 1 to Sep. 1.
Pheasants, ditto . .	Feb. 1 to Oct. 1.
Black game, in Somerset, Devon, & New Forest	Dec. 10 to Sep. 1.
Black game elsewhere	Dec. 10 to Aug. 20.
Grouse	Dec. 10 to Aug. 12.
Bustard	March 1 to Sep. 1.

Penalty not exceeding 1*l.* for every head of game so taken.

Any person poisoning game, to be fined not exceeding 10*l.*, with costs.

Sec. 4.—Persons licensed to deal in game, who shall buy or sell, or have in their possession, any bird of game after ten days (one inclusive and the other exclusive), from the days above fixed; and persons unlicensed, who shall buy or sell any bird of game after such ten days, or shall have in their possession any bird of game (except such as are kept in a mew or breeding-place), after forty days, shall be subject, on conviction before two justices, to a penalty not exceeding 1*l.* for every head of game.

Sec. 5.—Act not to affect the law relating to game certificates.

Sec. 6.—Game certificates* to qualify to take game (subject to trespass). Gamekeepers' licenses not to extend beyond the limits of their appointment.

Sec. 7.—Makes game the property of the landlord, where the land was let on lease previously to the passing of this Act.

Sec. 8, 9, 10.—Act not to affect rights of manor, forest, chase, or warren, or any royal forest rights. Lords of the manor still to have game on waste lands; and also right of deputation.

Sec. 11.—Landlords having reserved the right in game may authorize any person or persons to shoot who have certificates.

Sec. 12.—When landlord reserves right of game, tenant shall not kill or take it, or cause it to be killed or taken, under a penalty not exceeding 2*l.*; and for every head of game, not exceeding 1*l.*, with costs.

Sec. 13, 14.—Lords of manor may appoint gamekeepers, and authorize them to seize all dogs, &c., used within the manor by uncertified persons. Lords of manor may also grant deputations.

Sec. 15.—Persons seised in fee, or for life, of lands in WALES, of the clear annual value of 500*l.*, and not within any manor, lordship, or royalty, or enfranchised or alienated therefrom, may appoint gamekeepers.

Sec. 16.—Gamekeepers to be registered with the Clerk of the Peace.

Sec. 17.—Certificated persons may sell game to licensed dealers. Gamekeepers not to sell game except on account of master.

Sec. 18.—Justices may grant licenses in July to any householder or keeper of a shop or stall, not being an innkeeper or victualler, or licensed to sell beer by retail, or the owner, guard, or driver of any mail coach, stage coach, stage waggon, van, or other public conveyance, or a carrier or higgler, or in the employ of any such per-

* For game certificates read "license to take game," under the Act 23 & 24 Vict., c. 90.

son, to buy game of any person who may *lawfully* sell it; such parties to have their names in full, together with the words "licensed to deal in game," on a board in front of stall.

Sec. 19.—All parties obtaining a license shall also obtain a certificate on payment of 2*l.* duty, in the same way as game certificate; penalty for non-compliance, 20*l.*

Sec. 20.—List of such persons to be made out by collector of assessed taxes.

Sec. 21.—One license only necessary for two or more partners.

Sec. 22.—A conviction under Game Act to forfeit license.

Sec. 23.—Persons killing or taking game, or using any gun, dog, &c., for the purpose of searching for game, without game certificate, are subject to a penalty not exceeding 5*l.*, as well as the penalty under Game Certificate Act.

Sec. 24.—Any persons not having right of killing game on land, or permission from the person having such right, who shall wilfully take or destroy, on such land, the eggs of any bird of game, or the eggs of any swan, wild duck, teal, or widgeon, or shall knowingly have in his possession any eggs so taken, shall pay a sum not exceeding 5s. for every egg, with costs.

Sec. 25.—Persons selling game unlawfully, to be fined not exceeding 2*l.* for every head so sold, or offered for sale.

Sec. 26.—Allows innkeepers to sell game to customers, such having been procured from a person licensed to sell game.

Sec. 27.—Persons not licensed to deal in game buying game from *unlicensed* persons, subject to a penalty not exceeding 5*l.*, with costs.

Sec. 28.—Penalty for licensed persons not complying with provisions of the act, 10*l.*, with costs.

Sec. 29.—Servants of licensed persons may sell game.

Sec. 30.—Persons trespassing in the daytime in search of game, woodcocks, snipes, quails, landrails, or conies, may, on conviction by one justice, be fined, not exceeding 2*l.*, with costs; or if to the number of five, 5*l.* *each*, with costs; and the lease of the occupier, if not entitled to the game, shall not be a sufficient defence against the landlord.

Sec. 31.—Trespassers may be required to quit, and to tell their names and abode; and in case of refusal, may be arrested, and on conviction before one justice, may be fined not exceeding 5*l.* But the party arrested must be discharged, unless brought before a justice within twelve hours, though he may even thereby be afterwards summoned.

Sec. 32 & 34.—In case five or more enter upon land (as in Sec. 31), and shall by violence or menace, endeavour to prevent any authorized person from approaching for the purpose of requiring them to quit, or tell their names, or places of abode, *each* person shall be fined not exceeding 5*l.*, with costs.

Sec. 35.—Penalties, as to trespassers, not to extend to persons hunting or coursing, and being in fresh pursuit of any deer, hare, or fox, already started.

Sec. 36.—Game may be taken from trespassers who shall refuse to deliver up the same.

Sec. 37.—Penalties to be paid to overseers of the parish, one-half to go to the use of the county, and the other to the informer.

Sec. 38.—Imprisonment in case of non-payment.

Sec. 39.—Gives form of conviction.

Sec. 40.—Justices to have power to summon witnesses.

Sec. 41.—Prosecutions to be commenced within three calendar months of offence.

Sec. 42.—Prosecutor not obliged to negative by evidence any certificate, license, &c., but party adducing it bound to prove it.

Sec. 43 & 44.—Convictions to be returned to Sessions. Persons convicted entitled to appeal to the same.

Sec. 45.—No conviction to be quashed from informality.

Sec. 46.—Permits the prosecutor to proceed by the old action for trespass.

Sec. 47.—Limits the bounds of action against magistrates and others for exceeding their powers.

Sec. 48.—This act only to extend to England and Wales.

Abstract of Law permitting the Killing of Hares.

11 & 12 *Vict.*, c. 29.

Sec. 1.—Permits any person in the actual occupation of any inclosed lands, or for any owner thereof, who has the right of killing game thereon, by himself, or by any person authorized by him in writing, according to the form of the schedule thereto annexed, or to the like effect so to do, to take, kill, or destroy hares being upon such land, without duty or certificate.

Sec. 2.—No owner or occupier to have power to grant permission to more than one person at the same time in each parish; such authority, or a copy thereof, to be delivered to the clerk of the magistrates.

Sec. 3.—No person authorized to kill any hare as aforesaid, unless otherwise chargeable, to be liable to gamekeeper's duties.

Sec. 4.—Permits coursing without certificate.

Sec. 5.—Debars poisoning game, and the use of guns by night.

Sec. 6.—This act not to affect old agreements relative to game.

SCHEDULE.

I, A. B., do authorize C. D. to kill hares on my lands (or the lands occupied by me, as the case may be), on ———, within the ——— of ———, (here insert name of parish or place).

Dated this ——— day of ———.

Witness A.B.

ABSTRACT OF NIGHT POACHING ACTS.

The Act 9 Geo. IV., c. 69, s. 12, defines night as commencing at the expiration of the first hour after sunset, and concluding at the beginning of the first hour after sunrise.

Sec. 1.—Repeals 57 Geo. III., c. 90, and enacts that if any person shall unlawfully take game by night, he shall be punished with imprisonment not exceeding three calendar months. If for the second offence, not exceeding six calendar months, and find sureties on liberation. If for third time, not exceeding two years.

Sec. 2.—Persons found committing such offence may be seized, and carried before two justices, and if resisting, they may be convicted of misdemeanour, and transported for seven years.

Sec. 9.—Three or more persons found armed on land, to be guilty of a misdemeanour.

The 7 & 8 Vic., c. 29, recites the above Act, and declares, as it has been evaded by the destruction of game on high roads, that from and after the passing of this Act, all the pains, punishments, and forfeitures imposed by it, shall be applicable when the offence has been committed upon a road adjoining.

ABSTRACT OF NEW GAME LICENSE ACT.

23 & 24 Vic., c. 90, sec. 1.—Repeals old certificate Acts.

Sec. 2.—In lieu of old duties, the following licenses to be levied.

For a license in Great Britain, or a certificate in Ireland, to be taken out by every person who shall use any dog, gun, net, or other engine for the purpose of taking or killing any game whatever, or any woodcock snipe, quail, or landrail, or any conies, or any deer, or shall take or kill by any means whatever, or shall assist in any manner in taking or killing by any means whatever, of any game, or any woodcock, snipe quail, or landrail, or any cony, or any deer.

1.—If from 5th of April to 5th of April - - - - -	£3	0	0
2.—If from 5th of April to 31st of October - - - -	2	0	0
3.—If from 1st of November to 5th of April - - -	2	0	0
4.—Any person having the right to kill game may take out a license for his servant assessed as gamekeeper, for - - -	2	0	0
5.—License to deal in game -	2	0	0

Sec. 3.—Act to be under the control of the Commissioners of Inland Revenue.

Sec. 4.—Persons must take out license before killing game, &c., or incur penalty of 20*l.*

Sec. 5.—Excepts from the provisions of this Act—

1.—The taking of woodcocks and snipes with nets and springes in Great Britain.

2.—The taking or destroying of conies in Great Britain by the proprietor of any warren, or any inclosed ground, or by the tenant of lands, either by himself or by his direction or permission.

3.—The pursuing and killing of hares by coursing or hunting.

4.—Pursuing deer with hounds.

5.—Taking deer in inclosed ground, by the owner or occupier, or by his direction or permission.

It also exempts—

1.—Any of the Royal Family.

2.—Gamekeepers of Her Majesty, or her Commissioners of Woods and Forests.

3.—Any person aiding those duly licensed to kill game.

4.—Those persons killing hares under 11 & 12 Vic., c. 29.

Sec. 6.—Nothing in this Act to alter 11 & 12 Vic., c. 29 & 30, except that the words "game certificate," used in them, and also in 1 & 2 Will. IV., c. 32, shall be read as "license to kill game."

Sec. 7.—Permits licenses to be taken out for gamekeepers.

Sec. 8.—Allows license for gamekeepers to be transferred to successors.

Sec. 9.—Provides that gamekeepers' licenses are not available beyond the limits of his manor, or lands to which he is appointed.

Sec. 10.—License must be produced by persons in pursuit of game, when asked for by

any officer of Inland Revenue, or by lord of manor, or his gamekeeper, or by any person who has taken out a license under this Act, or by the owner or occupier of the land on which the person shall then be. In default thereof, Christian and surname must be given, with place of residence. Penalty for refusal, 20*l.*

Sec. 11.—A conviction under 1 & 2 Will. IV., c. 32, or 2 & 3 Will. IV., c. 68, forfeits the license.

Sec. 12.—Commissioners to publish lists of persons taking licenses.

Sec. 13.—No person to sell game to licensed dealers without 3*l.* license.

Sec. 18.—Licenses (not gamekeepers') to be available in any part of the United Kingdom.

ABSTRACT OF POACHING PREVENTION ACT.

The Act, 25 & 26 Vic., c. 114, was passed in August, 1862, with the intention of preventing the previously frequent breaches of the peace, and murderous conflicts between poachers and keepers. This intention it has very fully realized, the diminution in such crimes being marvellously great since the period of its coming into operation.

Sec. 1.—Defines the meaning of the word "game" as including eggs of game, woodcocks, snipes, and rabbits as well as the usual articles. Also the words "justice" and "justices."

Sec. 2.—Permits any constable in any highway, street, or public place, to search any person whom he may have good cause to suspect of coming from any land where he shall have been unlawfully in search or pursuit of game; *or* any person aiding or abetting such persons, and having in his possession any game unlawfully obtained, *or* any guns, parts of guns, or nets or engines used for the killing of game; and also to stop and search any cart or other vehicle suspected of containing game.

And should any of the above articles be found upon such person or conveyance, they may be seized and detained, and the constable shall then apply to some justice for a summons.

And if found guilty, such person shall forfeit a sum not exceeding 5*l.*, and shall forfeit such articles found, which shall be sold or destroyed.

But if no conviction takes place, the articles shall be restored.

Sec. 3.—How penalties are to be recovered.

Sec. 4.—Provisions of 11 and 12 Vict., c. 43, extended to this Act.

Sec. 5.—Convictions not to be quashed for want of form, or removed by certiorari.

Sec. 6.—Power of appeal.

By three decisions of the superior courts (Brown *v.* Turner, Evans *v.* Botterill, and Fuller *v.* Newland), it has been laid down that the justices may infer from the circumstances of the case, as proved, whether the accused had been unlawfully on land in pursuit of game, and that it is not necessary that he should have been actually seen on it or coming from it.

ABSTRACT OF THE POISONED GRAIN PROHIBITION ACT.

Sec. 1.—Recites expediency of preventing sale and use of poisoned grain.

Sec. 2.—Penalty not exceeding 10*l.* for selling poisoned grain.

Sec. 3.—Penalty for sowing, setting, etc., poisoned grain, not exceeding 10*l.*

Sec. 4.—Solutions or infusions, used for agricultural purposes, permitted.

Sec. 5.—Recovery of penalties.

TRESPASS PUNISHABLE BY ACTION AT COMMON LAW.

Any person who has a freehold estate in land may himself order off and remove all trespassers with just sufficient force. His tenant has also the same right, and may even exercise it against his landlord, unless the latter has a special agreement to the contrary. Every such trespass involves a certain amount of damage, which may be nominal, or to any greater extent, as the case may be; and an action may be brought to recover the same. Damages have accordingly been recovered—1st, for trespass while shooting; 2nd, for trespass while hunting—(the exemption while in *fresh* pursuit afforded by 1 and 2 Will. IV., c. 32, s. 35, does not apply here; but the law allows beasts of prey—*ex. g.*, a fox—to be pursued); 3rd, for shooting into and striking the soil without personally being on it; 4th, for shooting over land with intent to frighten game; 5th, for inciting a dog to enter land; 6th, for digging out a fox or badger; 7th, for entering any building with the intention of killing a hunted fox, hare, or deer.

TRAPS, DOG-SPEARS, OR POISONED BAITS, may be set by owners or occupiers of land, but not man-traps or spring guns. But the poisoned baits, if scented, must not be set so close to the boundary as to attract dogs through the fence.

ACTIONS may be brought in the superior

courts, or, if the damages are laid at less than 50*l.*, in the County Court.

DOGS TRESPASSING cannot be shot, except they are in the act of damaging some property—*ex. g.*, chasing game or poultry. Under the recent Act, when chasing sheep their owners may be made liable.

If a personal notice is given, or a printed caution, wherein the lands are specially described, a trespass afterwards committed will be considered wilful, which will affect the costs. The following are the forms to be used, as recommended by Mr. Oke in his "Handy Book:"—

1st, As a printed notice or board:

CAUTION.—Take notice, that all trespassers on any land on either side of the adjoining highways, for in length and in depth, on each side of and opposite to this notice, will be prosecuted as wilful trespassers under the Game Act, and otherwise, according to law.

C. D.

AS AN ADVERTISEMENT:

NOTICE.—Notice is hereby given, that all persons found trespassing in search or pursuit of game on the estates of —— and ——, in the parish of ——, the property of ——, will be prosecuted.

E. F., Steward.

NOTICE TO A PARTICULAR PERSON:

To Mr. A. B.

I hereby give you notice not to enter or trespass upon any of the lands or hereditaments (*if given by a tenant, say* in my occupation), belonging to me (and *if so*, in my occupation, *or* in the occupation of E. F. and F. G.), situate at, &c., and called ——, for the purpose of pursuing, taking, killing, or destroying game (*or* for the purpose of hunting, coursing, shooting, fishing, or fowling), or for any other purpose, or under any other pretence or pretext whatsoever. And that in case you shall do so after the service of this notice (*or* in case, after service of this notice, you shall enter or trespass upon the said lands and hereditaments, or any part thereof, for any or either of the purposes aforesaid), you will be deemed a wilful trespasser, and dealt with (*or* proceeded against) accordingly.

Dated at ——, this — day of ——, 1865.

C. D.

WILDFOWL may be shot anywhere without certificate, but the shooter will always be liable to an action for trespass if found upon land which is private property.

RABBITS IN WARRENS, AND WILDFOWL IN DECOYS, are private property, and a person sporting with them is liable to an action for damages, without notice.

TAME PIGEONS.—For shooting these without leave, penalty 20*s.*, unless they are shot while injuring corn, when they must not be removed from where they are killed.

SEC. 8.—SCOTCH GAME LAWS.

The laws relating to game in Scotland are not nearly so simple as those of England, the Act 1 and 2 Will. IV., c. 32, which settled the general principles of the English law not extending to Scotland, where the property in game still depends entirely upon the common law, and instead of being in the tenant, as in the southern half of Great Britain, is in the landlord, where no special agreement to the contrary exists. In both countries a license is necessary under the same Act (23 and 24 Vict., c. 90). In Scotland also "game" is not so clearly defined as in England, but the difference is very trifling, and is mainly of importance in dealing with each separate Act. A landed qualification to kill game is still necessary in Scotland, under the Act 1621, c. 31, which provides, that no man shall hunt or shoot game who does not possess a "plough gate" of land (variously estimated at from 56 to 104 Scotch acres), under a penalty of 100*l.* But a person possessing this qualification may lease game to unqualified persons, as is now commonly done. The law of trespass is defined by the following Act, which bears some relation to the 1 and 2 Will. IV., c. 32, having been passed in the following year.

ABSTRACT OF THE ACT REGULATING TRESPASS IN PURSUIT OF GAME.

Sec. 1.—Penalty on persons trespassing in the day-time, not exceeding 2*l.* Or if with face blackened, or to the number of five, not exceeding 5*l.*

Sec. 2.—Such trespassers may be ordered to quit the ground, and to give their names and addresses, or in case of refusal may be arrested and conveyed before a justice, and on conviction fined not exceeding 5*l.*

Sec. 3.—No person to be detained more than twelve hours without being taken before a justice.

Sec. 4.—Not to extend to hunting or coursing, when in fresh pursuit of game.

Sec. 5.—Permits the person having right to game, or his servant, to take game from trespassers.

Sec. 6.—Penalty for assault by trespassers not exceeding 5*l.*

The subsequent sections lay down the

forms of procedure before justices, or by action for trespass.

The Act Regulating the Killing of Hares.

The abstract of the Act 11 and 12 Vict., c. 30, applying to both England and Scotland, has already been given at page 16.

The Night Poaching Acts.

These have been given at page 17, as extending also to England.

License to Kill Game.

The Act regulating the license to kill game, extending to both countries, will be found at page 15.

Poaching Prevention Act.

An abstract of this also is to be found at page 18.

Close Times of Game and Muirburn.

The seasons during which the various kinds of game may be killed are defined by the Acts 1707, c. 13, and 13 Geo. III., c. 54, and to some extent by the License Act (23 and 24 Vic., c. 90). By the first of these Acts the close times are made to be as follows:—

Muirfowls are not to be taken from	March 1 to June 20.
Partridges ditto .	March 1 to Aug. 20.

Penalty, 20*l*., Scots.

By the second they are—

Muirfowl and Ptarmigan	Dec. 10 to Aug. 12.
Heathfowl (black game)	Dec. 10 to Aug. 20.
Partridges . . .	Feb. 1 to Sept. 1.
Pheasants . . .	July 1 to Oct. 1.

5*l*. penalty for every bird so taken, or in default two months for each 5*l*.

Muirburn.

By the Act 13 Geo. III., c. 54, s. 4, every person who shall set fire to any heath, from the 11th April to the 1st November, shall forfeit 2*l*. for the first offence, 5*l*. for the second, and 10*l*. for the third, or in default of payment six weeks, two months, or three months' imprisonment respectively.

Poisoned Grain Prohibition Act.

This Act, extending to Scotland, has been described at page 18.

Trespass at Common Law.

As in the case of the English game trespass statute, so in the 2 and 3 Will. IV., c. 68, the owner or occupier of land trespassed upon has his right of action at common law reserved, but he is not allowed to proceed in both ways. By the common law of Scotland the owner-in-fee has the exclusive right to the surface of his land, and can order off all trespassers; and, on their refusal to go, can use just sufficient force to remove them. A dog in pursuit of game cannot be destroyed. Fox-hunting is not a justifiable trespass as in England.

Sec. 9.—Irish Game Laws.

The Irish laws relating to game are still more complicated than those of Scotland, and the list of Acts in force there extends to a round dozen. The ownership of game is in the tenant, as in England, and the word "game" includes deer, hares, pheasants, partridges, grouse, landrails, quail, moor-game, heath-game, and wild turkeys or buzzards.

Close Times.

At certain seasons of the year game may be bought or sold, but it may not be killed, which is an absurd premium on poaching. The following are the close times for killing it, according to 37 Geo. III., c. 21, and 26 Vict., c. 19:—

Deer (red male) shall not be killed from	June 10 to Oct. 20.
Ditto (fallow) ditto	Sept. 29 to June 20.
Heath-game and grouse ditto . .	Dec. 10 to Aug. 20.
Landrail, quail, and partridges . . .	Jan. 10 to Sept. 20.
Pheasants . . .	Jan. 10 to Sept. 1.

Hares—No close time since the passing of the Act 26 Vict., c. 19.

Irish Qualification.

By the 13th Rich. II., c. 13, none are allowed to take deer, hares, conies, nor other gentlemen's game by hunting, but such as have lands or tenements to the value of 40*s*. a year, nor a priest who has not 10*l*. a year; and by 10 Will. III., c. 8, no one shall have any hound, beagle, greyhound, or land spaniel (except whelps at walk) without 100*l*. a year freehold, or 1000*l*. personal estate, except breakers and trainers expressly licensed.

Sec. 20—Permits tenants to keep such dogs within manor with lord's consent.

There is, however, no penalty attached, and an indictment under the common law is the sole remedy.

Night Poaching.

This offence is under the same laws as

in England and Scotland, as already described at page 17.

License to take Game.

The Acts 23 and 24 Vict., c. 90, an abstract of which is given at page 17, is extended to Ireland by section 18; but the special Act in force there is 5 and 6 Vict., c. 81, of which the following are the sections:—

Sec. 1.—Recites 56 Geo. III., c. 56, but transfers the management and collection of the certificate duty (which was 3*l.* 3*s.*) to the Excise. These duties are, however, repealed by the Act 23 and 24 Vict., c. 90, and made to assimilate in amount throughout the United Kingdom.

Sec. 2.—Persons keeping dogs for killing game must take out a certificate, not being gamekeepers.

Sec. 3.—Gamekeepers must take certificates and register deputation.

Sec. 4.—Certificates granted by Supervisor of Excise.

Sec. 5.—Penalty of 20*l.* for keeping game dogs without certificate.

Sec. 6.—Lists to be published.

Sec. 7.—Gamekeepers' certificates may be renewed on change of servants without fresh payment.

Sec. 8.—Compels production of certificate under penalty of 50*l.* On refusal the offender may be apprehended, and taken before justice.

By the 23 and 24 Vict., c. 113, s. 43, a license for killing rabbits is dispensed with.

Poaching Prevention Act.

This Act is given at page 18.

Trespass in Pursuit of Game.

The Act 27 Geo. III., c. 35, comprises the following sections:—

Secs. 1, 2, 3.—Preamble and recital of 10 Will. III., c. 8.

Sec. 4.—Penalties for killing game on Sunday, or out of season.

Sec. 5.—Penalty of 10*l.* for taking game by night.

Sec. 6.—Higglers who have possession of game not the property of qualified persons, to forfeit 5*l.* (This section is in the main repealed by English License Act.)

Sec. 7—Applies to the selling of game, and is now repealed by English License Act.

Sec. 8.—Qualification for keeping dogs.

Sec. 9.—Repealed by English License Act.

Sec. 10.—Persons not authorized trespassing in pursuit of game, fined a sum not exceeding 10*l.*

Sec. 11.—Makes it necessary to the act of "looking for game," that the person shall have a "dog or dogs, gun or guns, net or nets, or some other implements for taking or destroying game."

Sec. 12.—Qualified persons may follow game into another manor.

Sec. 13.—Recovery of damages.

Sec. 14.—Rewards for killing otters, martens, weasels, &c.

Sec. 16.—Dogs of persons not qualified may be destroyed by virtue of justice's warrant.

Sec. 17.—Redress for damage.

Sec. 18.—Saves rights of lords of manors.

Sec. 19.—How offences are to be determined.

Sec. 20.—Date of prosecution.

Sec. 21.—Application of fines, &c.

Sec. 22.—No person to be whipped.

Sec. 23.—Appeals.

Muirburn.

The Act 10 Will. III., c. 8, limits the time for burning heath, &c., to the interval between June 14 and February 2.

The Poisoned Grain Prohibition Act.

This, as described at page 18, extends to Ireland.

Killing Hares and Rabbits.

Hares are "game," but there is no close time. The owner or occupier of land may kill hares without license, and so also may persons hunting or coursing.

Hares and rabbits in warrens or special breeding-grounds may not be taken under the Larceny Consolidation Act during the night, without committing a misdemeanour. If in the day-time, the penalty to be a sum not exceeding 5*l.*

Rabbits are not game in Ireland, but under the Poaching Prevention Act they are so considered.

The Common Law as to Game.

This is in the main the same as in England.

CHAPTER II.

THE GUN, AND THE MODE OF USING IT.

SECT. 1.—DESCRIPTION OF THE GUN.

GENERAL REMARKS ON DETONATORS AS OPPOSED TO FLINT GUNS.—The first half of the nineteenth century will always be remarkable in the history of guns and gunnery, as being the time of the invention of the "detonator." This lock has now so completely superseded the old flint and steel, in every department of gunnery, that it is scarcely necessary for me to do more than allude to the old plan in the most cursory way. It is universally admitted that percussion-guns shoot much more rapidly than the flint, that they are much less liable to hang fire, and that they are also less affected by wet or damp—which formerly used to cause the sportsman much vexation, from his gun missing fire, and generally, as it appeared to him, at the most inopportune moment; they should, therefore, for these advantages, be universally chosen, since they combine all the requisites of a good ordinary gun. It is very true that a good shot may, and does, bring down his birds with any gun which he may happen to pick up; but what the sportsman desires is to be placed in the best possible situation for the prosecution of his sport, and not simply to be enabled to carry on the war in an "any-how" manner. Emulation is one great essential to the enjoyment of sport; and the good shot who goes out with the idea that his companion has a better gun, or better dogs, than himself, is already deprived of a considerable share of the pleasure which he would otherwise enjoy. Besides this point of view, another must be taken—guns not only shoot with different degrees of force and accuracy, but also with *very varying degrees of safety.* A cast-steel gun of the most ordinary metal would, probably, shoot as well as any other, if carefully bored and finished; but in point of safety, it would be highly dangerous, even if by accident it stood the proof-charge. It is well known that cast metals assume different forms of crystallization long after they are cool, and that after a considerable period has elapsed they often become much more brittle than at first; hence there would be great risk in using this material. And this is not the only one which should be avoided; but the controversies on the subject are so warm, and the evidence so conflicting, that it is difficult to arrive at the truth. Some contend that steel barrels are the most safe, as well as the best shooters; others, that they can never be made safe: but, at all events, there can be no doubt that different barrels shoot with very different degrees of safety. I shall, therefore, consider the choice of a gun—first, on the score of safety; and secondly, on the score of efficiency.

THE COMPONENT PARTS OF THE GUN are—1st, the barrel; 2nd, the breech; 3rd, the nipple; 4th, the lock; 5th, the stock; 6th, the ramrod.

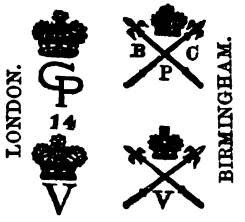
THE BARREL must vary in gauge, in length, and in weight, according to the work for which it is required. It is quite out of the sportsman's province to understand all the delicate points in the manufacture of this article; a little knowledge is here highly dangerous, for it will lead him to fancy himself a sufficient judge to enable him to dispense with that requisite, without which he ought never to feel safe—I allude to the guarantee afforded by a respectable maker. Without this, he will never be free from danger; and with it, he can comfort himself, in case of accident, with the reflection that it is not his fault, since he took care to go to a respectable house, whom he thought he could trust. Gunmakers themselves are often deceived; and, therefore, it is reasonable to suppose that no inspection which an amateur can make will detect the defect in the quality of the iron or workmanship. No one should buy a cheap gun who values his life or limbs; at all events, he should be careful to have the recommendation of some one who really understands his business before he trusts to one. Gun-barrels are made of iron in some of its multifarious forms, it being the metal which combines toughness, strength, hardness, and cheapness in the highest degree. Many are now made of steel, which is procured for this purpose from old coach-springs, as it is found that steel which has been in vibration for a long time without breaking is improved in quality; or, at all events, being old, it shows that it is strong—that it has not broken in work; hence it may be trusted in preference to newly-made steel. They are also made from this metal, mixed with varying quantities of the Wednesbury iron, which has

now nearly entirely superseded the old stub-iron, in consequence of the bad quality of the stub-nails in common use, and it is what is now commonly termed stub-iron in the trade. Whichever of the materials is used, it is forged into a long tape-like bar, thicker towards one end than the other, and is then wound spirally round a mandril, and welded into a hollow tube by means of the furnace and hammer. In this stage it presents a rough tube, thicker at one end than the other, with an irregular cavity running its whole length, and much smaller than the intended bore. After this, by means of certain tools, which are worked backwards and forwards while the barrel is kept revolving, the interior and exterior are finished off to the requisite form. In boring the barrel, in order to cause the shot to scatter, and yet shoot with as much strength as possible, it is necessary to avoid making it a perfect cylinder. This is effected by various modes adapted to different lengths. The old flint gun and the modern detonator require very different boring, and hence the altered guns are seldom good ones for any purpose. In the old guns, it was the practice to bore the first six or eight inches "opened;" that is, increasing in size towards the breech, by which means the powder was detained and obstructed in its explosion, and the charge was sent out with great force. But it is found that in the percussion-guns the explosion is so rapid, that the same amount of opening causes more recoil, which, in a long day, is found to be very unpleasant to the shoulder. It is, therefore, now the practice, for ordinary fowling-pieces, to bore a perfect cylinder for three-fourths of the barrel from the breech, and then to "relieve" the remaining fourth more or less, according to the degree of scattering required. In long and heavy guns, even though detonators, a slight "opening" behind may be made, but it must be very carefully done, or the powder will escape by the side of the wadding. For a duck-gun, the barrel should be more and more tight down to within six inches of the breech, when it may be slightly "opened" down to the breech, increasing the length of the opening in proportion to the length and strength of the gun. The object of the former is to ease the shot out, and yet, by the latter, to give sufficient impetus by the early confinement of the explosion in the first six inches. There are so many points to consider in fixing upon the precise length, bore, and strength of a barrel, that a gunmaker ought to have every particular before he attempts to suit his customer. But whenever such a maker as Purdey, Lancaster, Lang, or Boss, who now take the front rank in London, receives full instructions, he is enabled at once to select a pair of barrels which only want putting straight, to give full satisfaction. These particulars are—first, the range—whether for long or short shots—that is, whether chiefly for the end or beginning of the season; and secondly, the degree of ease in shooting required, which depends upon the loading, rather than the boring, if the gun is properly turned out of hand. Barrels are now made from 2 feet 6 inches, for covert and early partridge-shooting, to 2 feet 8 inches for partridges and grouse later in the year, or 2 feet 10 inches for single guns.

Breeching.—When the barrel is thus forged and bored, being still only a cylinder, it requires the large and stout end to be completed by means of the addition of the breech. This is a strong chamber forged for the purpose out of the best iron, and screwed into the open and thick end of the barrel. The breech has a shoulder to the screw, which renders it of the same size as the barrel, when the two are accurately fitted to one another by the skill of the workman. The breech contains within itself a chamber for the powder, variously formed by different makers, being a mere cup, communicating by a small tube with the touch-hole or nipple, in the Manton breech; whilst in Wilkynson's, the tube leading to the nipple is expanded into an oval chamber, having a contraction near its distal extremity. This is said to facilitate combustion, by detaining the powder; but I much doubt its practical utility, since I am assured, and believe, that the form of the chamber has little or nothing to do with the firing. In the breech of some guns a plug of platina is introduced, containing a very fine hole—the *vent-hole*. This allows a portion of air to escape in loading, and also in the firing, both of which are thought to be beneficial; but in practice it is not found to be the case.

Proving.—In this stage—that is, as soon as the breech is fitted into the barrel—a small hole is bored, to which a train of powder is laid by the men employed, and it is proved at the "proving house,"—a process which all barrels are required to go through according to law. This is effected by firing certain charges of powder, with a cylinder of lead rammed down in the usual way, and the charge varies from 11 oz. for a No. 1 gauge, down to 5½ drachms for a 50 gauge. It should be known that the

numbers of these gauges correspond with the weight of ball which each will carry; thus, No. 1 carries a ball of 1 lb. weight; No. 2 carries a ½ lb. ball; No. 14 carries a ball weighing one-fourteenth of a lb., and so on; and, consequently, No. 16 carries an ounce ball, and No. 32 a half-ounce one. The marks of the proving houses are given in the annexed woodcut.



The barrels are first provisionally proved with a heavy charge, while in the rough; and after being put together a smaller, but still very heavy charge, is used, which is called the definitive proof. The former is indicated by the two upper marks, the latter by the lower on the annexed cut.

THE NIPPLE completes this part of the gun, and is merely a short piece of tubing, which is tapped into the breech, more or less perpendicularly, or at right angles with the axis of the barrel. The bore of this tube enlarges towards the inner extremity, and receives a part of the powder, which is forced into it from the breech-cavity by the pressure of the ramrod. Its exterior should be round for about three-eighths of an inch, then square, to facilitate its removal, and afterwards tapped, for the purpose of fixing.

THE LOCK comes next under examination. Its principle is simple enough, being merely a mode of exploding the cap on the nipple, by giving it a sharp blow. It is, therefore, only in delicacy of mechanism that its beauty consists, for any bungler can make a lock which will discharge a cap. An artist, however, will make one which shall discharge it with certainty, and with its *full force exerted* at the end of its stroke, so that it confines the gas resulting from the explosion of the powder within the barrel, and does not allow it to escape, as many weak and badly-made locks do. He will also take care that the trigger acts with delicacy, and yet that the cock is quite safe at half-cock. The spring, also, should not be so strong as to overpower the thumb, as in cocking carelessly it may explode, and do serious damage. The various parts of the lock are—1st, the cock, or striker; 2nd, the lock-plate; 3rd, the main-spring; 4th, the tumbler, upon which the spring acts by means of the swivel, and in unison with which, on the outside of the lock-plate, the cock rises or falls; 5th, the tumbler-screw, which fastens the tumbler and cock together; 6th, the scear, which catches the tumbler at half or whole cock; 7th, the scear-spring, which holds the last in its place; 8th, the bridle, which caps the tumbler, and receives the scear-screw; 9th, the side nail, which fastens the lock to the stock. Locks are now sometimes made "back-actioned;" that is to say, the main-spring and lock-plates are thrown back, for the purpose of keeping them out of the way of the wet, and also of the corrosive power of the cap. This weakens the stock, and moreover the back-actioned lock does not "speak" so well as the old bar-lock, for which reason most of our best makers still retain the forward action.

THE STOCK is generally made of walnut, and should be bent to the most convenient angle to suit the party intending to use it. It should also vary in length, according to the length of arm, the average being fourteen and a half inches from the butt-end to the trigger. It should be as much reduced at the gripe, or handle, as the strength of the wood will allow; and the butt-end is always capped with iron, hollowed out from above downwards, to fit the shoulder, and slightly rounded from side to side. The stock extends up the barrel, which it is hollowed out to receive, and which is attached to it by means of the loops or eyes, confined in their places by sliding-bolts. Into the part of the stock which receives the breech, a piece of iron called the false breech is screwed; and into that part beneath the lock, the trigger-plate, and guard containing the trigger, are firmly and neatly inserted. The length and bend have been already alluded to, but another point in the stock must be attended to, namely, the *casting-off*, which is a slight lateral bend inclining the wood inwards, and of great importance in a perfect stock. The loading also should be remembered. This is merely a piece of lead inserted under the butt-plate, and as near the lower part as possible; it is solely intended to balance the weight of the barrel, but a good artist now avoids this unnecessary weight by lightening the barrels forward. It is in this part of the gun that the London makers

Fig 1

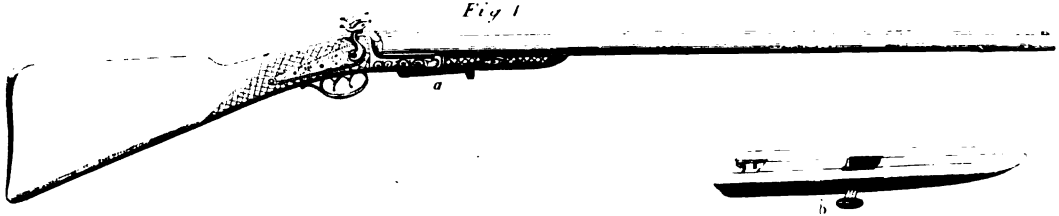
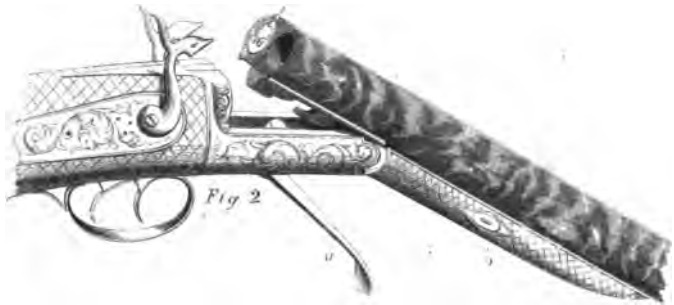


Fig 4 Fig 3



THE LEFAUCHEUX BREECH-LOADING GUN. P. 25.

so greatly excel; it is there generally sent out without polish, but if any is used, I know no composition so good as the following; it equals the French polish in beauty, and stands heat or water to any extent; it should be used *with the locks and barrels removed*:—Butter of antimony, ½ oz.; spirits of wine, 1 oz.; vinegar, 1 oz.; linseed oil, ¾ to 1 pint: mix and shake well together. Enough oil should be added till the whole is of the consistence of cream; rub on with plenty of elbow grease, using a piece of flannel.

THE GRAVITATING STOP, OR SAFETY-GUARD, is a very important feature in the manufacture of guns, since upon it mainly depends the safety of the shooter. Nothing is more annoying than to find a lock refuse to act, from some irregularity in the stop, or from its not being properly released at the right time; and for these reasons many good shots have, until lately, discarded its use. At the same time, it cannot be disputed that without it loading is *always* attended with some degree of danger, and that a cocked-gun, carried over the shoulder, is at all times liable to go off, from a fall on the part of the sportsman carrying it. I have examined a very simple and good stop, used by Mr. Lang himself, and many of his customers, which has been in use for many years, and which seems simple and incapable of getting out of order. It has the great advantage of requiring no thought to put it into action, but it is moved solely by the weight of the gun on the right hand at the grip. It is a simplification and improvement upon the stop of the late Joseph Manton.

THE RAMROD completes the gun. It is, as its name implies, a rod for loading, and lies in the circular eyes attached to the lower part of the barrel, but many of the great *battue* men now-a-days dispense with this, and carry it separate from the gun. It has a copper, or, what is better, a copper-gilt head, and a worm for drawing the charge, covered with a cap, at the smaller end. Such is a description of the single gun; the double one differs only in having two complete barrels, with their necessary appendages, the locks and triggers.

DOUBLE BARRELS.—No good plan has yet been discovered for dispensing with the second barrel of the fowling-piece, by means of a revolving chamber, as in the pistol and rifle; and the reason is, that it is exceedingly difficult to confine the powder and shot so as to avoid the risk of their falling out during the first discharges. To those, also, like Col. Hawker, and most fast shots, who habitually keep both their locks at full cock, the inconvenience of having to cock in the interval between the discharges would be greater than that of loading every second charge. However, the attempt has not yet succeeded, nor do I think it likely to be carried out, for the above reasons; and the breech-loading gun, to be presently described, does away with all necessity for it. In placing and soldering the two barrels side by side, it must be remembered that the two lines forming the axis of each barrel should not be exactly parallel; but as the breech-end of each barrel is so much thicker than the muzzle, the two former would be separated by a piece of metal equal to double the thickness of the breech, less that of the two muzzles. This would be too great a difference, and consequently a portion of the two thick ends is filed away so as to bring them closer together, without weakening them, because they support each other. The reason for avoiding an exact parallelism is, that in double barrels each barrel shoots a little away from its neighbour's axis, in consequence of the greater support which it receives on that side. To the lower side of the metal, between the barrels, are attached the ramrod-eyes and the stock-eyes; and on the upper surface, the sight is fixed at the muzzle, which is merely a stud of silver, and of very little use, except for a sitting-shot or dead-mark.

THE ELEVATED RIB is intended to be a means of adjusting the sight, so that when the eye appears to be directing the gun to a given object, it is really aiming considerably higher. It was introduced by the late Joseph Manton, but is now almost entirely dispensed with, by decreasing the bend of the stock about the eighth of an inch. It is manifest that in all guns, the breech-end being thicker than the muzzle, the line of sight is not parallel with the axis of the bore—and, consequently, in all cases the barrel really points to a spot higher than the eye does.

THE BREECH-LOADING GUN. — A gun of this description was introduced some years ago by a French maker, of the name of Lefaucheux, but which was little known in this country until taken up by an English gunmaker, Mr. Lang, of Cockspur-street, London, who succeeded in improving upon the principle to such an extent as to produce a really useful gun, which can be discharged four times while a common fowling-piece can be loaded and discharged once. The principle is exceedingly simple

and beautiful, but it requires good workmanship to carry it out; and certainly in that respect Mr. Lang did full justice to the original idea. The following is a description of this most ingenious invention, which will be better understood by a reference to the engraving:—The barrels are united to the stock by a strong hinge, which is set at liberty by moving the lever (*a*, fig. 1), a quarter turn to the right, as shown in fig. 2. This turn releases a bolt which connects the barrels firmly to the stock when ready for firing, as shown in fig. 1. After turning the lever, the barrels may be raised from the stock, as shown in fig. 2, and are then ready for loading, for which purpose a cartridge case is used, containing within itself all the requisites for the gun's discharge. These cartridges, which will be presently described, are carried loosely in the pocket of the shooting-coat, or in a properly-made belt, and supersede the necessity for powder-flask, shot-pouch, cap-holder, wadding, &c. &c. In loading, the shooter turns the lever, the barrels then lower themselves by their own weight, exposing the open breeches, in each of which he places the cartridge, turns back the lever, and the gun is ready for use, the whole operation being only an affair of a few seconds. On reloading, it is necessary to draw out the discharged cartridge before inserting a fresh one; but the time required for this is scarcely more than that consumed in removing the exploded cap before putting on the fresh one in an ordinary gun. In this gun, the old breech-chamber is entirely done away with, and the barrels merely drop down against the flat surface of the false breech, just as in the revolving pistol. They are bored larger at the breech-end to admit the cartridge, the calibre of which should exactly correspond with that of the rest of the barrel, and thus form with it a continuous tube; the barrel, therefore, has a bevelled shoulder at the part where the cartridge ends. THE CARTRIDGE CASE is composed of a thick brown-paper cylinder two and a half inches long, and varying in bore according to that of the gun; one end is open to receive the charge, which is the same as in the ordinary gun, the other is closed by a brass capsule, which overlaps the paper nearly a quarter of an inch, forming a strong joint. In the middle of the inner surface of this capsule is a small brass chamber, firmly supported in its place, and containing the small cap which fires the charge. A brass pin eight-tenths of an inch in length, and about a line in diameter, passes through the capsule and one side of the small chamber, and receives the cap on its point in the same way as the ordinary nipple. The other end of the pin projects beyond the cartridge about one-fourth of an inch, and lies in a notch between the barrel and the false-breech, beyond which it stands up to receive the blow of the striker. All this will be more readily understood by a reference to the engraving (figs. 3 and 4). The cartridge-case is sold with the cap, all ready for receiving the powder and shot; and this is the best plan of using it, because then dry powder may always be obtained, and they are as easy to charge as an ordinary gun. Their price is from 30s. to 50s. per thousand, containing a cap; and this additional cost is the only drawback to the use of the breech-loader with which I am acquainted. The advantages of this gun are manifest, and by all those who value rapid and safe loading as highly as it deserves. It has been so highly appreciated that it has now (1865) almost entirely superseded the muzzle-loader, except for pigeon-trap shooting, and for wild game at the end of the season, for which its slight superiority in penetrating power causes it to be discarded by many sportsmen. But for grouse and partridge shooting during August and September, and more especially for battues, the breech-loader is so commonly used that it is almost imperative upon the shooter who forms one of a party to have one. The time occupied in loading is so greatly reduced by its agency that when a line of men is stopped by the possessor of a muzzle-loader who is occupied in charging his gun, the grumbling is so great that the annoyance is not often repeated. Besides this, when birds are scattered, and get up singly round the shooter, he will find that the breech-loader enables him to get a shot at almost every one as it rises, whereas the old gun would allow all but the first brace to get away. For these reasons, and independently of its freedom from danger in loading, and of the facility with which it may be kept clean, though both the latter are strong points in its favour, one hundred breech-loading guns are now sold to one muzzle-loader, and the latter is so completely a drug in the market, that new guns which formerly fetched 25 to 30 guineas, may often be bought for 6 to 10 guineas.

VARIETIES OF BREECH-LOADERS.—But not content with beating the old gun by four to one in loading, sportsmen must now (1866) have one which will surpass the

Lefaucheux gun in quickness of loading by 50 per cent., or at all events, which they fancy will allow them to accomplish this feat. Gunmakers in every large town profess to have discovered plans by which this may be done, and scores of patents have been taken out to protect the inventors. Central-fire, self-cocking, and self-locking guns, and those possessing a combination of the two latter processes, have been paraded before the public without end, and purchasers who have been bitten with these announcements, vie with the inventors in proving to their friends the advantages of their pet plans. I have myself examined more than fifty patented principles, a great many of which are so similar to each other, that no law proceedings could separate them, nor, indeed, do I believe that there are more than four or five of them which could be safely defended from piracy. All of them may be arranged in four groups. 1st. The old Lefaucheux or lever-grip action, including the single and double grip. 2nd. The various snap-bolts of Messrs. Purdey, Needham, Westley Richards, Horsely, Cogswell and Harrison, Marrison, Powell, Paton, Harlow, &c., &c. 3rd. The sliding actions of Bastin and Dougall, used with the pin-cartridge; and 4th, the central-fire principle, as carried out by Lancaster, Daw (Schneider) and others. With the exception of the Bastin gun, all are hinged like the original Lefaucheux, three inches in front of the break-off, and when released by moving the lever on its axis, or drawing the spring-bolt, as the case may be, the muzzles drop, and the open breeches are exposed ready for withdrawing the empty cases and inserting others ready charged. The Bastin barrels, on the contrary, are moved forward in the same line, by the depression of a long lever acting on them through the intervention of a short arm attached to it, and to the fore end of the slide in which they run. I shall now proceed to examine into the merits and demerits of each of these plans. I have omitted purposely Mr. Needham's and other needle-guns, as they are now virtually withdrawn from the market.

DESIDERATA IN A BREECH-LOADER.—The points of superiority upon which the breech-loader has superseded its rival are quickness and facility of loading, safety, and cleanliness, both externally and in the barrels themselves, its demerits, *per contra*, being the slight inferiority of penetration which it displays in its shooting powers, its greater prime cost, the increased expense of its ammunition, amounting to from 50 to 100 per cent., and lastly, its comparatively speedy destruction by wear and tear, few of these guns lasting more than two seasons' hard work without repair. Every variety of the breech-loader should, therefore, be considered in reference to each and all of these points. In quickness of loading, there is considerable difference, extending, perhaps, to 20 or 30 per cent., but in safety and cleanliness all are very much on the same footing. With regard to the cause of the deficiency in penetration, nothing but a carefully conducted public trial can possibly settle the question, and that has not yet been made, but according to some experiments which I carried out in 1864, and reported in *The Field* newspaper, it would seem that this depends upon the firmness of the connexion between the barrels and the false breech. Lastly, the wear and tear will depend upon the amount of friction between the working parts, and upon the extent and *hardness* of their surfaces, which may be either of soft iron, steel (tempered or untempered), or iron case-hardened. In estimating this last point, it must be borne in mind, that in all cases the explosion of the charge has a tendency to carry the barrels away from the false breech chiefly in the direction of their long axis, but also in the hinged guns to tilt their breech ends up as far as the restraining bolt will allow of this motion. It is, therefore, necessary to regard with great care the mechanical means by which these tendencies are restrained. In some plans there is nothing but the hinge-bolt to prevent the forward motion, which is the most powerful one by far, and though this is quite sufficient when the bolt fits well in its socket, which it does when fresh from the maker's hands, yet as the two surfaces (one of them, moreover, being necessarily in a soft state as forming a part of the barrels themselves) wear away, partly by the friction of the opening and closing action, and partly by the blow received on each by the explosion, the fit is soon converted into a misfit, and the gun becomes rickety, though still safe. But when, in addition to this hinge, a solid lump of steel attached below the barrels drops into a box, to which it is accurately fitted in the horizontal flap of iron extending from the false breech to the hinge socket, a much greater security is afforded against wear and tear, and, therefore, I should always recommend attention to this point in selecting a breech-loader, wherever the hinge is made in the lump brazed on beneath the barrels, as in all the varieties of the Lefaucheux gun. From a careful

examination of the guns of late years, used by practical sportsmen, I am convinced that none are durable which do not possess this projection, or some equally sound substitute for it, and I should advise all who care about the cost of their guns to reject those which do not exhibit it in a marked degree. In fact, the durability should be measured by the area of surface taking the blow of the recoil.

The old Lefaucheux gun has been already described as originally introduced into England by Mr. Lang, in 1853-4. Since that time, various improvements have been made upon it, trifling enough apparently, but greatly conducing to its efficiency. Among these is the addition of the double-grip, which is merely a second cam on the lever, so that it works in two slots of the lump below the barrels, instead of one. This, no doubt, by increasing the surface, renders that part more lasting, and is a decided advantage, but it has the counterbalancing disadvantage that when it requires refitting, there is a great increase of difficulty in so doing. The cam also is so arranged, that on raising the barrels smartly, the lever is made to snap sufficiently to hold the action together, though it is always prudent to finish the closure with the hand. It is in avoiding this last motion that the modern snap action to be presently described, owes its slight gain in rapidity of loading. But it cannot be denied that the double-grip Lefaucheux is stronger in all its parts than any other breech-loader yet invented, as far as I know, provided that the horizontal limb of the action which contains the cams of the lever is not cut away to receive the main-spring of a bar-lock, as is now frequently done to meet the taste of the sportsman. In thus sacrificing metal where it is most wanted, namely, at the angle between the two limbs, a wanton waste of strength is displayed, and risk is consequently run of a fracture at that part, which has often happened. It may be said that if made of good stub-iron, this part will stand the shock of the discharge, and so, no doubt, it will, but even stub-iron is sometimes defective, and I object to running any needless risk.

SNAP-BOLT ACTIONS have within the last two years (1865—6), been invented by the score, and almost every week sees a new one brought out. Mr. Westley Richards was, I believe, one of the first to introduce a modification of the French breech-loader on this principle, having shown one at the last International Exhibition at South Kensington. By his plan the upper surface of the barrels is held in apposition to the corresponding part of the false breech, by means of a dovetailed hook which drops into the latter, while their lower parts are held to it through the ordinary hinge. To keep the barrels from rising a small slide is arranged between the hammers, which fits into the dovetail, and is drawn back by the thumb, a common scear-spring concealed beneath the wood driving it into its place. This is the neatest, simplest, and most ingenious of all the actions with which I am acquainted; and it would be theoretically perfect in my judgment if only there were sufficient surface procurable to stand wear and tear, but this is limited by the necessarily small size of the hook. The lump is also dispensed with, being replaced by a projection from the action, which fits into the triangle between the barrels, and has an equally good tendency to prevent any side twist, but unfortunately, none to meet the blow of the discharge. It appears to me that both might be retained with advantage, and the gun would then obtain my unqualified approval. Mr. Horsely, of York, has adopted the thumb-piece, placed exactly like that of Mr. Westley Richards; but he has not introduced the dovetailed projecting hook, and his snap-bolt drops into the lump beneath the barrels. No doubt this position of the thumb-piece between the hammers is a very convenient one, but in other respects Mr. Horsely's gun does not differ from the ordinary snap-guns. Mr. Purdey has lately introduced a snap-gun, so arranged that the lever works below and drops into the trigger guard, which is made broader to receive it. It is a neat piece of workmanship, but somewhat deficient in durability. Messrs. Cogswell and Harrison add to their snap a self half-cocking motion, which is very simple and effective. It consists in the projection upwards, by means of the lever, of a stud to receive the head of the hammer, by which it is raised to the half bent; and of course, when the lever is in its place, the stud is dropped, and the hammer can descend upon the cartridge-pin. In Mr. Needham's self half-cocking gun, the hammer is raised by the lever through the agency of a cam acting on a projection on its breast; but in each case the false breech is cut away to receive these members to an extent which is sufficient to weaken the angle, in the same way as has been already remarked in reference to the bar lock; and when both are adopted, as is done in each of these guns, the amount of iron left is reduced to a dangerous degree. Mr. Lang's

snap-gun has a side-bolt worked with a spring, and dropping into the lump in the usual place. Mr. Marrison, of Norwich, some three years ago patented an action in which, instead of the barrels dropping, they turn out sideways to expose their open breeches. To prevent their rising when discharged, a projection from the lower surface fits into a slot cut in the angle of the false breech, which unfortunately is thereby weakened at the very part where most strength is required. Besides this, there is also a difficulty in accurately fitting the pins of the cartridges; for as the barrels are turned in sideways, there can be no projections from the false breech to complete the circle around the pins. A spring catch, relieved by a small thumb-piece at the side, keeps the barrels in their places. The "wedge-bolt gun," as Mr. Harlow denominates his invention, is a misnomer, as there is no wedge concerned in the action, and it is an ordinary snap-gun merely. Lastly, I may mention Mr. Paton's action, which that celebrated Scotch gunmaker has brought into general use during the last season. Its principle closely resembles Mr. Purdey's, differing only in the lever not dropping into the trigger-guard, but standing below it, and altogether free. In the details of the manufacture, however, Mr. Paton is quite distinct from his London rival, as he follows Mr. Greener in altogether rejecting brazing, both for putting together his barrels and fixing on the steel lump for the snap-bolt to lay hold of. With tin solder he finds that both these points can be satisfactorily accomplished, the lump being fitted all across both barrels, and into the angle between them. This avoids the necessity for overheating the iron in the act of brazing, and if carefully performed the tinning is no doubt perfectly efficacious; but, unless well done, there is risk of the surfaces coming apart. Mr. Paton, also, by keeping the horizontal limb of his action very deep, is able to dispense with the iron at the sides, and lets his bar-locks into the wood. I confess that this part looks too weak in my judgment, but Mr. Paton tells me that the experience gained by the trial of more than fifty guns made on this principle, and of many more converted from muzzle-loaders, has satisfied him of its perfect safety and efficiency.

THE SLIDING ACTIONS of Bastin and Dougall are quite distinct in appearance, as well as in principle; but they have this element of weakness in common, namely, that they both depend solely upon bolts for receiving the shock of the discharge, and cannot receive any help from the wedge or the lump. In Bastin's action the barrels have a dovetailed projection from their lower surfaces which fits into a corresponding slot cut in the metal fore-end, and allows them to slide backwards and forwards in the direction of their long axis. A long lever is jointed to the projection, and also to a short connecting rod, the other end of which is connected with the fore-end. When, therefore, the lever is forcibly brought down, it forms a compound lever, having its fulcrum in the connecting rod; and the object to be moved being the barrels, they slide forwards the length necessary for exposing the cartridges. These, having their pins received in a small hole of the hammers, remain behind, and are thus drawn out of their chambers, when by half-cocking they drop out if the gun is tilted sideways. This action is very strong as long as the bolts connecting the rod with the lever and fore-end remain unworn; but as they speedily wear by use, it requires occasional repair, and is not easily adjusted. Moreover, it must be made half a pound heavier than the Lefaucheux and its improvements, in consequence of the mass of iron required for the slide on the fore-end. It is therefore very little used in this country. Mr. Dougall's lockfast gun, as I before remarked, though sliding forward, does so on an entirely different plan, and to a much less extent. Like the Lefaucheux, it is hinged, but with the addition of an eccentric bolt, which when worked by a side lever either drives the barrels forward to open them for loading, or backward, to close them. This renders it necessary that there shall be two projecting cores from the face of the false breech to enter the barrels, and another from the lower part of the barrels themselves—the two former fitting into the chamber, and the latter into a socket formed for it in the breech. Thus the barrels and false breech are, as it were, interlocked, and if they could be kept together by any powerful means the action would no doubt be a strong one. But alas for Mr. Dougall! all the recoil is taken by the eccentric, than which it is scarcely possible to conceive a weaker means of resisting this severe blow. It is well known that the large hinge bolt of the Lefaucheux gun soon wears away, though it is merely the passive agent in checking the drop of the barrels, and is moreover a complete circle, taking the blow and friction on its entire surface. Here, however, is an active agent in opening and closing the gun, and also receiving the blow from the explosion;

but in both cases only on the blunt point afforded by the eccentric, which thus has a tendency to wear a hole in the socket with great rapidity, and such in practice is found to be the case. Hence, though this action has received a medal at the last International Exhibition, and has been most fortunately introduced to the public in other ways, it has not found favour with them, and is now (1866) rarely met with in the hands of an experienced sportsman. It is a pretty toy, and no more. It will neither shoot unusually strongly, nor wear even reasonably well as a shot-gun; but for a limited number of discharges, as in the case of a sporting rifle, it has been found to serve the purpose for which it is intended, and has been reported on favourably by Mr. Fordyce ("Blackbuck"), in the *Field*, and also in his little work "On the Rifle."

It may appear paradoxical, that where a greater power of resistance is required a weak action—as I maintain this to be—should answer well. But the reason is apparent enough: the action is strong enough as long as it lasts sound, but the wear and tear in a shot-gun (fired perhaps one hundred times as often as a rifle) is so great that the eccentric soon wears, and the joint becomes rickety, and though not really unsafe, yet quite unfit to produce good shooting.

THE CENTRAL-FIRE principle was for a long time only carried out in England by Mr. C. Lancaster, of Bond-street, the well-known resuscitator of the oval-bore rifle; but Mr. Daw, of Threadneedle-street, has lately introduced a foreign invention—that of M. Schneider, Rue St. Antoine, Paris, which is by many preferred to it, and is adopted by M. Lepage-Montier, the celebrated gunmaker of the latter city.

Mr. Lancaster, of South Audley-street, and Mr. Henry, of Edinburgh, have also produced central-fire guns; but of this last plan I can only speak from a very partial experience of its merits. The name "central fire" is altogether misapplied, as the fire is really not more central than in the pin-cartridge, which has its cap and detonating-powder exactly in the same place, the difference consisting in the fact that in the pin-cartridge there is a brass pin projecting through the case to receive the blow of the hammer, while in the central fire the pin is placed in the false breech, and conveys the blow to the powder in the base of the cartridge. It is, therefore, absurd to say that the explosion in the central-fire cartridge is more rapid than in the pin-cartridge; and the only advantages which can be claimed are, that in the former there is no escape of gas, which certainly occurs, though to a very slight extent, by the side of the pin, and that the empty cartridge-case can be extracted ready for re-loading. On the other hand, the central-fire has the objection, that you cannot tell, when the gun is closed, whether it is loaded or not, and thus an accident is more likely to occur from carelessness than in a gun exposing the pins of its cartridges to the eye. There is also the disadvantage attending the central-fire, that not having a pin to lay hold of, the cartridge-case must be extracted by the process of opening the gun, occasioning not only loss of money, but, to some slight extent, a loss of strength, since the metal of the barrels is generally reduced to admit the extractor. As, however, it never happens that the chambers burst, this last point is of no practical importance; and the cost of the extractor, which is about 2*l.*, is alone to be taken into consideration. The cases are about the same price as the pin-cartridge cases. In all of these guns a striking pin is arranged in the false breech, so as to project into the middle of the base of the cartridge-cases, and transmit to the powder the blow received from the hammer. In Mr. Lancaster's gun this is done in the exact axis of the barrels; but in Schneider's (Daw's) the pin is oblique, and passes from the situation occupied by the nipple of the percussion gun to the centre of the false breech. This gun, therefore, has outwardly very much the appearance of the detonator. In all three the empty cases are brought back by making the inner third of the lip of each breech-end moveable, and attached to a slide, which is worked either by the hinge, as in Daw's gun, or by the lever, as in Mr. Charles Lancaster's. By its means the cartridge-cases, whether loaded or empty, are protruded from the chambers about the third of an inch, when they may be laid hold of by the fingers, and removed; on replacing them by fresh ones, the latter cannot be pushed home until the gun is closed, but in that act, as soon as they meet the false breech, they are driven into their places. Altogether, the plan is very neat and ingenious, and it is becoming daily more and more popular, in great measure, probably, from the introduction of an extractor; but in real efficiency and in simplicity, I still give the palm to the Lefaucheux principle. The escape of gas is the only demerit in this gun; but as this is very trifling, and always as nearly as possible the same, I can see no great objection on this score. Clearly, it

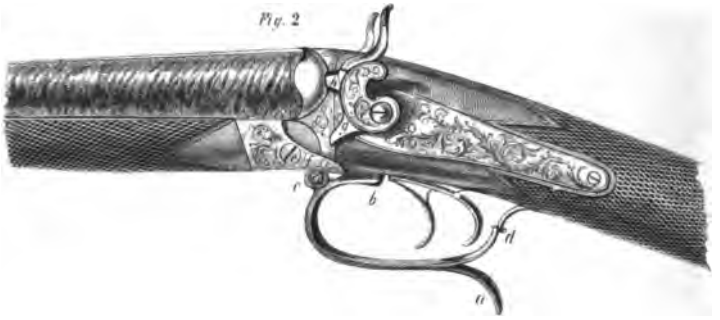


Fig. 2
c
b
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Fig 3
f
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Fig 4
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a

does not diminish the strength of the shooting, for the escape at the nipple of the old detonator is much greater; and yet it is admitted that the latter is superior to all breech-loaders in penetration.

It has for some time appeared to me that Mr. Greener was right when he attributed the weak shooting of the Lefaucheux gun to the want of connexion between the upper part of the barrels and the false breech. This I attempted to prove by experiment in 1864, and then constructed a gun by which loading is rendered easy enough without any dropping of the barrels. The cost of its construction is, however, so great, that it would never suit the general run of sportsmen; and I have, consequently, not brought it before the public. But the improvement in the penetration was so great that I have continued to look to the attainment of this end as the desideratum in the breech-loader. Still I do not see how it can be accomplished entirely, and can only suggest, as the nearest approach to it, a strong connexion on the principle introduced by Mr. Westley Richards. In his gun—as I have before remarked—there is not room for this; but it has occurred to me, that by bringing back the hinged joint to the line of false breech, and carrying back a strong central flap as a part of the barrels themselves, a perpendicular bolt may be made to connect the barrels, and break off very strongly and securely. It has the advantages, in addition, of affording a very simple extractor and cocking process, and the hinge is capable of being made much more strong and durable, as it can be of increased size *and of case-hardened iron*. On the other hand, no lump can be arranged to bear the recoil; but as this is divided between two large bolts, each working in case-hardened iron or steel, there is little want of such an aid, especially as the second bolt nearly doubles the area of recoil-bearing surface. Time has not yet elapsed since I built the first of these guns to allow me to speak from much experience of it; but as far as I can judge I believe it will be found to be the lightest, quickest in opening and closing, strongest in shooting, and more durable than any gun now out. It brings the cartridge out three times as far as any other but the Bastin, and can be arranged either for the pin-cartridge or central-fire, or for both. This gun may be seen at Mr. Morris's, engineer, 21, Rathbone-place, Oxford-street.

A trial of the comparative merits of modern breech-loaders having been suggested by various correspondents of the *Field*, I made arrangements for carrying out the third of the series which I have conducted, on the 22nd and 23rd of May, 1866. It took place at the Lillie Arms, Brompton, with the following report:—"The interest displayed by the spectators in the shooting of the guns was much greater than on previous years, in consequence of the shots being counted at once in the presence of the competitors, who were thus able to judge of the merits of the guns. There were two or three points of great interest for solution, independently of the workmanship in boring and regulating the guns for good shooting. These were—1st, the comparison of the three kinds of barrels used—viz., laminated steel, Damascus, and cold-drawn steel; 2nd, the shooting of the pin and central-fire cartridges in different guns and in the same gun; and, 3rd, the effect of the action on the shooting of the gun. We must, as we stated last week, leave the committee to give their opinion on the various actions submitted to them, which will not be published till next week; but we may state that the four guns which made the best figures of merit were all pin-guns, while in the two guns in which the two kinds of cartridge-cases were employed, the advantage was in each case in favour of the central-fire, the latter being the only fair test. As between the three kinds of metal for the barrels, the result was all in favour of steel, the three highest figures of merit being made by the laminated steel of Mr. Pape and Mr. Greener; then came a pair of cold-drawn steel from the company formed for drawing it; then again a pair of Mr. Pape's laminated steel; and then, for the first time, comes Mr. Henry with a pair of Damascus, followed by Mr. Pape with a pair of Damascus, who is again succeeded by Mr. Henry with another pair of the same metal. But, curiously enough, while the chief point of superiority claimed for the laminated steel barrels is their greater strength of shooting, Messrs. Pape and Greener were beaten in penetration by Damascus barrels exhibited by the following makers—viz., Hasdell, London, with an average of 54·1 for the two barrels; Erskine, of Newton Stewart, 54; Harlow, Birmingham, 53·1; Cogswell and Harrison, 52·2; and Berry, Woodbridge, 50. The Steel Company, however, just beat all these with an average of 54·3. Mr. Greener's gun (the third on the list) is fitted with a very strong top attachment to the barrels; but Mr. Pape's two (the first and second) were both on the ordinary double-grip Lefaucheux action.

THE "FIELD" GUN TRIAL OF 1866.

RESULT of the trials of thirty-five guns (two being shot both with pin and central-fire cartridges), at the Lillie Arms, Old Brompton, on the 22nd and 23rd of May, 1866. All the shots were taken with the foremost foot of the shooter 40 yards from the target, which was a circular plate of iron 30 inches in diameter, having a square of paper suspended in the middle of its face, and close to it. This square was composed of forty thicknesses of double imperial brown paper (140lbs. per ream), procured from Messrs. Pettitt, of Frith-street, Soho, by whom it was cut and tied up at each corner, the size being 10½in. by 9½in.—in round numbers, 10 inches square. In counting the pattern, the hits on the iron were added to those on the paper, and in counting the penetration the number of sheets broken by any one shot were scored. The shot used was Walker, Parker, and Co.'s No. 6, London size, 280 pellets per ounce, charge 1⅛oz. Powder—Curtis and Harvey's No. 3, 5, or 6, at the discretion of the shooter, who was allowed any weight he pleased. It is worthy of remark that the eight guns highest on the list used No. 5 or No. 6, and the seven lowest No. 3—a fact telling strongly in favour of coarse powder.

CLASS I.—12-BORE.

Maker.	Description and Weight of Gun.	Material and Length of Barrels.	Price of Gun without case.	Charge of Powder (Curtis and Harvey's).	Barrel. Average of six shots.	Barrel. Mean of two barrels.	Barrel. Average of six shots.	Barrel. Mean of two barrels.	TOTAL FIGURES OF MERIT.
1. Pape, Newcastle	Lefaucheux Breechloader, with pin cartridge; 7½lb.	Laminated steel; 30 inches.	£30	3dr. No. 6	Right 131·1 Left 123·2	127·1	Right 26·5 Left 24·3	25·4	305·4
2. Pape, Newcastle	Lefaucheux Breechloader, with pin cartridge; 7lb. 10z.	Laminated steel; 30 inches.	£35	3dr. No. 6	Right 134 Left 117	125·5	Right 24 Left 24	24	300
3. W. W. Greener, Birmingham.	His Patent Wedge-fast Breechloader, with pin cartridge; 7½lb.	Laminated steel; 30 inches.	20gs.	3dr. No. 5	Right 134·2 Left 119	131·4	Right 24·4 Left 26·2	25·3	304·2
4. Holland, London, for Drawn Steel Company, City Road.	C. Lancaster's Patent Breechloader, with central-fire cartridge; 7lb. 2oz.	Drawn steel; 30 inches.	35gs.	3¼dr. No. 5	Right 116 Left 116·5	116·3	Right 27·1 Left 24·4	26	284·4
5. Pape, Newcastle	Lefaucheux Breechloader, with pin cartridge; 7lb. 1oz.	Laminated steel; 30 inches.	£40	3dr. No. 5	Right 101·1 Left 133·5	117·3	Right 23·3 Left 23·3	23·3	281·5
6. Henry, Edinburgh	His Patent Breechloader, for central-fire or pin cartridge, shot with central; 6lb. 10oz.	Damascus; 30in.	35gs.	3¼dr. No. 6	Right 108·2 Left 127	117·4	Right 23·2 Left 23	23·1	281·4
7. Pape, Newcastle	His Patent Breechloader, with central-fire; 6lb. 15oz.	Damascus; 30in.	£40	3dr. No. 5	Right 125·5 Left 104·5	115·2	Right 23 Left 23·4	23·2	277·2
8. Henry, Edinburgh	Same as above (No. 6), but now shot with pin cartridge.	Damascus; 30in.	35gs.	3¼dr. No. 6	Right 112·5 Left 115·3	114·1	Right 21·4 Left 21·5	21·5	271·5
9. Crane, Royal Exchange, London.	C. Lancaster's Patent Breechloader, with central-fire cartridge; 6lb. 11oz.	Damascus; 29½in.	35gs.	3dr. No. 3	Right 101·5 Left 119·2	110·4	Right 24·1 Left 23·1	23·4	268·3
10. Henry, Edinburgh	His Patent Breechloader, with central-fire; 7lb. 3oz.	Damascus; 30in.	35gs.	3¼dr. No. 6	Right 118·3 Left 94·1	106·2	Right 25·1 Left 24·1	24·4	261·5
11. Holland, London, for Drawn Steel Company, City-road.	C. Lancaster's Patent Breechloader, with central-fire cartridge; 7lb. 2oz.	Drawn steel; 30 inches.	35gs.	3¼dr. No. 5	Right 98·4 Left 107	102·5	Right 27·4 Left 26·5	27·2	260·1

12. Cogswell and Harrison, Strand.	Their Patent Self-cocking Breech-loader, with central-fire cartridge; 6lb. 15oz.	Damascus; 30in.	28ga.	2½dr. No. 3	Right 99·1 / Left 107·4	103·3	Right 23·4 / Left 26·2	25	250·6
13. Berry, Woodbridge	Lefaucheux Breechloader, with pin cartridge; 7lb.	Damascus; 30in.	28ga.	2½dr. No. 3	Right 93·1 / Left 107·1	100·1	Right 24·1 / Left 25·4	25	250·2
14. Erskine, Newton Stewart, N.B.	His improved Lefaucheux Breechloader, with pin; 7¼ lb.	Damascus; 30in.	£10	3dr. No. 3	Right 87·3 / Left 104	95·4	Right 23·2 / Left 25·4	27	243·2
15. Cogswell and Harrison, Strand.	Dougall's Patent Lockfast Breech-loader, with pin; 7¼lb.	Damascus; 30in.	28ga.	2½dr. No. 3	Right 94 / Left 101·1	97·4	Right 23·2 / Left 24·2	24·5	244·5
16. Thompson & Son, Edinburgh.	C. Lancaster's Patent Breechloader, with central-fire; 7lb.	Damascus; 30in.	28ga.	2½dr. No. 3	Right 93·2 / Left 99	96·1	Right 24·5 / Left 26·4	25·5	243·5
17. Melland, Lime-street, London.	C. Lancaster's Patent Breechloader, with central-fire cartridge; 7lb. 1oz.	Damascus; 29in.	28ga.	2½dr. No. 3	Right 96·2 / Left 99·4	98·1	Right 21·5 / Left 23·2	23	243·2
18. Hasdell, Clerkenwell, London.	Lefaucheux Breechloader, for pin or central-fire cartridge; shot with central-fire; 7lb.	Damascus; 30in.	£35	3dr. No. 3	Right 94·4 / Left 101·3	98·1	Right 23·2 / Left 20·3	21·2	220
19. Thompson & Son, Edinburgh.	Lefaucheux Breechloader, with pin cartridge; 7lb.	Damascus; 30in.	26ga.	2½dr. No. 6	Right 107·2 / Left 78·5	93·1	Right 23·5 / Left 23·3	23·1	233·4
20. Elliott, Birmingham	His Patent Snap-action Breechloader, with pin cartridge; 6lb. 14oz.	Damascus; 30in.	£35	2½dr. No. 3	Right 80 / Left 103·4	91·3	Right 24·3 / Left 24·1	24·2	231·1
21. Harlow, Birmingham	His Patent Wedge-bolt Breechloader, with pin; 7lb.	Damascus; 30in.	£23	2½dr. No. 3	Right 84·3 / Left 98·1	88·5	Right 27 / Left 22·1	25·3	220·4
22. Crane, Royal Exchange, London.	C. Lancaster's Patent Breechloader, with central-fire cartridge; 6lb. 13oz.	Damascus; 29in.	26ga.	3dr. No. 3	Right 95 / Left 86·5	91	Right 23·5 / Left 23·4	23·1	236·2
23. Wilson, Horncastle	Lefaucheux Breechloader, with pin cartridge; 6lb. 13oz.	Damascus; 30in.	£26	3dr. No. 5	Right 84·2 / Left 97·2	91	Right 21·4 / Left 22·1	21·5	225·4
24. Fletcher, Gloucester	His Patent Snap-action Breechloader, with pin; 6lb. 15½oz.	Damascus; 30in.	£26	3dr. No. 3	Right 97·3 / Left 78·3	87·5	Right 23·2 / Left 23·3	23·3	223·4
25. Hasdell, Clerkenwell, London.	Lefaucheux Breechloader, for pin or central-fire cartridge; shot with pin; 7lb.	Damascus; 30in.	£35	3dr. No. 5	Right 93 / Left 86·3	87·4	Right 23·1 / Left 23·5	23·3	220
26. Cogswell and Harrison, Strand, London.	Their Patent Self-cocking Breech-loader, with pin; 7lb.	Damascus; 30in.	28ga.	2½dr. No. 3	Right 75·2 / Left 91·2	83·2	Right 24·3 / Left 27·5	26·1	219
27. Williamson and Son, Bridgnorth.	Lefaucheux Breechloader, with pin cartridge; 7¼lb.	Damascus; 30in.	£30	2½dr. No. 3	Right 79·2 / Left 90	84·4	Right 24·4 / Left 23·4	24·1	217·4
28. Williamson and Son, Bridgnorth.	Muzzle-loader; 7lb. 2oz.	Foreign iron; 32 inches.	£25	3dr. No. 3	Right 87 / Left 79·4	83·2	Right 27·5 / Left 23·3	25·1	217
29. Fletcher, Gloucester	His Patent Snap-action Breechloader, with pin; 7lb.	Damascus; 30in.	28ga.	3dr. No. 3	Right 85·3 / Left 75·3	80·3	Right 24·5 / Left 25	25	210·4
30. Hasdell, Clerkenwell, London.	C. Lancaster's Patent Breechloader, with central-fire; 7¼lb.	Damascus; 30in.	28ga.	2½dr. No. 3	Right 79·1 / Left 73·3	75·5	Right 27 / Left 27·1	27·1	208·5
31. Tolley, Birmingham	Lefaucheux Breechloader, with pin cartridge; 6¾lb.	Damascus; 30in.	8ga.	2½dr. No. 3	Right 71·3 / Left 68	69·4	Right 21·5 / Left 19·3	20·4	180·4
32. Hast, Colchester	C. Lancaster's Patent Breechloader, with central-fire cartridge; 7lb. 2oz.	Damascus; 30in.	28ga.	2½dr. No. 3	Right 67·1 / Left 57·1	62·1	Right 20·5 / Left 19·1	20	164·2
							Mean	24·1	244·2

CLASS II.—16-BORE.

1. Pape, Newcastle	Lefaucheux Breechloader, with pin cartridge; 6lb. 15oz.	Laminated steel; 29 inches.	£35	2½dr. No. 5 1oz. shot.	Right 100·3 / Left 118·4	109·4	Right 27·5 / Left 24·3	25·5	264·5
2. Elliott, Birmingham	His Patent Snap-action Breechloader, with pin; 6¾ lb.	Laminated steel; 30 inches.	£25	2½dr. No. 3 1oz. shot.	Right 73·1 / Left 67·5	75	Right 21·5 / Left 20·5	21·4	186·4

CLASS III.—8-BORE.

1. Elliott, Birmingham	His Patent Snap-action Breechloader, with pin cartridge; 14½lb.	Laminated steel; 36 inches.	£50	6dr. No. 3 1¼oz. shot.	Right 111 / Left 105·3	108·2	Right 27·3 / Left 25·3	26	272·4

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The figure of merit of each gun is made up of the average number of hits made in a 30-inch circle by six shots from each barrel, added to the average number of sheets penetrated. Thus Mr. Pape's winner made the following score: Hits, left barrel, 123·4; right barrel, 131·1; penetration, left barrel, 24·2; right barrel, 26·5—total, 306. His second gun made a gross score of 299.

The prices of the guns exhibited varied from eight guineas to 40*l.* The penetration was not quite up to the average I expected, which may partly be accounted for by the fact that the shot used (Walker, Parker, and Co.'s) was somewhat smaller than that hitherto used, being 280 pellets to the ounce instead of 270, which of course makes some difference. In point of pattern, however, the guns shot very well."

A committee composed of the following gentlemen was also appointed by me to examine into the merits, in point of durability and general efficiency of the competing guns, and the following is their report, after a careful examination:—

Report of "The Field" Committee on the comparative merits of Cartridge-Filling Machines, and the "Actions" of Breech-Loaders.

The *Field* Committee, consisting of Mr. Amhurst, Captain Whittingstall, Mr. I. E. B. Cox, Mr. Lort, and the Rev. Mr. Pearce (of Morden), met in the first instance at the Lillie Arms, Brompton, to test the merits of various machines invented to charge breech-loading cartridges.

Several very ingenious instruments were put in operation, and the time occupied in the completion of a given number of cartridges was accurately taken by each member of the board, as the inventor set himself to work to fill and turn down against time.

Most of the manufacturers have abandoned the screw movement in the turning-over action, and it is quite obvious that no screw is required; in fact, it has a tendency to crush or bulge the cartridge, which, when fitted into the gun-barrel, becomes jammed and difficult to remove. The hand-lever at the base of the cartridge enables the operator to turn down as much or as little as he chooses, without any possibility of forcing the cylinder out of proportion; and one of the inventors has produced a small five-shilling turning-down instrument which has no lever at all, the cartridge being simply held in the hand.

Mr. Erskine, a Scotch gunmaker, produced a machine capable of filling one hundred cartridges at once; and it could easily be constructed to complete five hundred or a thousand simultaneously without any waste or risk. The charge is increased or lowered by a very simple arrangement, and the *fac simile* of the filler, with the few simple tools used in Mr. Erskine's process, can be obtained at the cost of an ordinary single cartridge-loading machine; or rather at the price one of these instruments *used* to cost. At present the inventor produces them singly by hand labour, but by the aid of machinery much expense will be saved; and what a workman at the bench cannot finish under 3*l.* will be offered to the public at a reduction of 25 per cent.

The inventor tested the machine at the suggestion of the committee, and he *completely finished fifty cartridges for the gun in the short space of nine minutes and a half.* It is only fair to Mr. Erskine to say that he is by no means a skilful operator, and that we believe young and practised fingers would make much shorter work of it. Mr. Erskine himself, we feel sure, would fill and turn down four hundred in the hour with his one-hundred machine; and we have little doubt that he will make a few improvements hereafter by which the placing of wadding on powder and shot will be very much facilitated.

As it is exceedingly improbable that Mr. Erskine's "pace" has ever been approached, we give the time occupied below:

Placing fifty cartridges in position	2 minutes.
Filling them with the powder charge	0¼ a minute.
Placing the thick wadding and ramming down. . .	2 minutes.
Filling with shot	0¼ a minute.
Placing the wadding on the shot	2 minutes.
Turning over the cartridges	2½ minutes.

The cartridges were all adapted or fitted with the pin, but the central-fire would take even less time.

The committee tested several specimens selected by one of their number, and they found the work good, and equal to that performed by the single instruments.

Mr. Erskine also showed a small, cheap, portable turning-down machine, acting in a very simple way, and entirely removing any necessity for cramp or lever. Both of his inventions were unanimously approved and highly commended as of great practical utility.

Messrs. Melland, Pape, and Bussey also exhibited machines for cartridge-filling, all of which did their work well; one of them (Mr. Bussey's) certainly economised time to a certain extent, but the cartridge he employed (a French made one) was so light and flexible that we did not consider he gave his invention a fair chance.

Having completed their labours in this department, *The Field* Committee commenced their examination of the breech-loader actions; and in the preliminary examination of the grips and other fastenings they received the valuable assistance of Lord Ranelagh, a nobleman well known as an amateur mechanic, and whose acquaintance with the subject generally rendered his aid peculiarly useful to the members.

Lord Ranelagh declined to give any express opinion as to the individual merits of the guns submitted to examination, but we understood him to approve of the construction of those specimens which found most favour with the committee, and in a few minor points he suggested some modifications which were of practical importance.

It was, however, the task of the committee to settle the claims of the gun-makers, and, what is of more consequence, to direct the public in their choice of a safe, rapidly-loading gun, constructed on such principles that it should hit hard, last well, and be safe, and that it should be supplied at a moderate cost.

Mr. W. W. Greener, of Birmingham (the son of the Greener who wrote on gunnery), exhibited a strong, plain gun, which he calls the "Wedge-fast." This gun is made for the American market. It performed well in the shooting, and as some persons may desire to identify it, we furnish the number (7110). The barrels are held by a staple, which is let into the false breech, and this staple is traversed by a taper bolt. The release of the barrels is effected by a side or thumb spring placed obliquely between the right hammer and the strap of the break-off. This bolt or wedge is self-tightening, and any amateur accustomed to the lathe, or even to the use of the file, could very easily make a fresh bolt in case the original should wear out. But we see no possibility of such a contingency; and at the same time that we consider the appearance clumsy, we believe it to be strong, effective, and enduring. It is not, however, adapted for very rapid loading, but it would be a useful strong gun for India or some of our outlying settlements. The barrels are of the best material, but not of the highest finish, and the price of the gun is 20*l.*

Mr. Greener showed a half-cocking snap-action gun, which he can supply at 21*l.*, which would be a good weapon for the colonial settler, as it is strong and not readily damaged. Mr. Greener's guns are both of them for the pin-cartridge.

Mr. Crane, of the Royal Exchange, showed two highly-finished guns (central fire) of admirable workmanship and construction. These were both made on Mr. C. Lancaster's principle, and they would have lost little or nothing by comparison with the best guns of that well-known maker. Their price, however (36*l.* 15*s.*), rendered them scarcely the form of gun we should select; and when prices range so high it is a matter of question whether it may not be as well to go to the high-priced gun-maker at once, and to be "one of the two men in three" who pay for the gun which they receive.

Mr. George Melland's central-fire gun is a well-constructed and highly-finished "fowling piece," and it was as "handy" a gun as any produced. It certainly had one of the best cartridge extractors we have seen, and this contrivance was so admirably adjusted that it never came in contact with the "break off," and consequently, there was neither wear nor friction. The price of this gun is 35*l.*

Mr. Thompson, of Edinburgh, handed in a very useful, well-made central-fire. This gun was universally approved by the committee, and they considered it one of the best guns brought before them. The price is 28 guineas, and the excellence of material and work makes it one of the cheapest guns of the number entered.

Messrs. Powell and Son (Birmingham) exhibited a snap-action gun, which the committee considered to be the very best gun at the price (25*l.*). They very highly approved the *action*; and the materials, as well as the workmanship, are most admirable. This fowling-piece is constructed of the best Damascus barrels. It is furnished with excellent locks, although they are not "Brazier's locks," and the workmanship and finish are most respectable. The mechanism of the snap is simple, strong, and solid; there are but two moving parts, and the gun is not liable to derangement by use or accident.

Mr. Wilson's "single-grip action" was good in principle, and of satisfactory material and finish. This gun fulfilled the conditions required by the committee.

Mr. Elliott's gun (a snap-action pin gun) showed some variation in its form, but nothing new in the action itself. He had made the upper side of the "fan" of the stock narrower than the lower side, reversing the established form, with the notion that the gun could be brought more sharply to the shoulder, and that there would be less chance of its hanging to the coat.

Mr. Hasdell's guns take the pin-cartridge, or act as central-fire guns, and in the latter case the hammers act upon the surface of the barrels, consequently the cap does not receive a direct blow, and some force is lost. If this structure is adopted, however, no gun could be better made or more likely to succeed. Price 30*l.* to 35*l.*

Mr. Harlow's gun takes the pin-cartridge only, and it is made on the wedge-bolt principle. It appeared to be made with great care, and to be the work of a thoroughly practical workman.

Mr. Henry, of Edinburgh, exhibited two first-class guns of very superior finish and of the best material. One of these guns was adapted for either the pin or the central-fire. The central-fire cartridge in this specimen is ignited by the action of a "striker" inside the lock, and the blow is direct. The committee examined this gun after it had been fired, and before the last empty cartridges were withdrawn. No trace of smoke—in fact, no discolouration—was visible, either on the face of the false breech or in the mechanism. When the gun is used for the pin-cartridge, the extractor is removed by a very simple process, and the veriest bungler could not make any mistake in the operation. The release of the barrels for loading is effected by a downward pressure of the lever, which fits close to the guard. The grip and solidity of the action are complete. The guns shown reflected the greatest credit upon Mr. Henry; and if the price (40 guineas) did not prove an obstacle to the purchase, any sportsman might safely place himself in Mr. Henry's hands.

Mr. Pape, of Newcastle (one of the few manufacturers who make their own barrels), produced a combined snap and lever gun, which met with the approbation of all the judges. It is an exceedingly well made, handy, strong, serviceable gun; fit for all descriptions of shooting. It would stand a good deal of knocking about, and it is as good as any gun which competed at *The Field* trial. The price of the gun is 30*l.*

Mr. Fletcher, of Gloucester, exhibited a capital snap-action pin gun, which at 26*l.* ought to satisfy the most fastidious grouse shot, and we believe it will be in general request. Great credit is due to Mr. Fletcher for the open manner in which he showed his action, and we heartily wish him success.

Messrs. Cogswell and Harrison's system of raising the hammers to the half cock is admirable, and the fall of the hammers is so arranged that, in case the spring of the lever should not act, the hammers secure the barrels to the false breech before the gun can explode. Price 30*l.*

Mr. Erskine, whose cartridge-loaders we have already mentioned, exhibited a gun made on the Lefaucheux system, but decidedly stronger and better, and altogether most creditable to him as a thinking and practical man As he has not patented this improvement, we must decline at present to say more of his valuable invention.

Nearly the whole of the guns produced were of the established 12-gauge, and manufacturers persisted in adopting the Lefaucheux-gun, which with many imperfections, is as strong as any breech-loader hitherto made.

After a patient investigation of the various systems, the committee conclude that the gathering together of gunmakers must be a permanent benefit and advantage to the trade and to the general public, for whose sole benefit and advantage they have undertaken the task of examining the various principles upon which breech-loaders can be constructed, duly regarding safety, strength, durability, quickness, and economy.

THOMAS PEARCE, Chairman.
GEORGE FEARNLEY WHITTINGSTALL.
W. AMHURST T. AMHURST.
WILLIAM LORT, Jun.
IRWIN E. B. COX.

ALTERING MUZZLE-LOADERS INTO BREECH-LOADERS.

If the muzzle-loader is strong enough at the breech end of the barrels, it may safely be converted into a breech-loader by brazing or soldering on a lump to the lower side, and fitting a false breech to it. Mr. Sylvers, of 44, Bedford Street, Covent Garden, has long made this a speciality, and has converted many hundred guns with success at the price of 12*l.* each, using the same locks and stock as before. Mr. Paton, of Perth, has more recently taken up this manufacture, his charge being 15*l.* each, while Mr. Harlow, of Birmingham, offers his services for 10*l.*

WEIGHT AND LENGTH OF GUNS.—The usual weight of a double-barrelled muzzle-loading gun is now from 5½ to 7½ lbs. The former *may* be safe, but is scarcely to be recommended, especially if not made by a perfect artist. The smaller the bore the lighter the gun may be, and consequently the sportsman must make up his mind, if he wants a light gun to suit his powers of carrying it, to be content with a small bore and diminished charge of shot. A bore less than eighteen is scarcely useful for killing game, since it will not put a sufficient number of shots into a moderate circle to ensure the certainty of killing. With a fourteen or sixteen-gauge, the barrels should be from twenty-eight to thirty-two inches in length. Single-barrelled guns should weigh from five to seven pounds, for general use, and the barrel should be from thirty-four to thirty-six inches in length. For covert-shooting, a difference should be made of about four inches. It should be remembered, however, that it will not always answer to cut this length off a thirty-six inch barrel, as the forward relief is thereby removed, and the barrel is left a perfect cylinder throughout, though of course it may be re-bored. Breech-loaders may be of the same dimensions as muzzle-loaders, but they cannot be made so light as the corresponding gauge by about half a pound.

THE RANGE of guns varies so much, that it is scarcely possible to give any definite idea, further than to assign the average of the certain killing power of a thirty-inch barrel of a fourteen gauge, and seven pounds weight, at about forty yards. Beyond this many birds are killed, but the best shot will occasionally, and, indeed, often miss, because the shot beyond this distance spread so much as to leave vacant spaces as large as the object aimed at. A heavier gun, with an extraordinary charge, will often kill with great certainty at ten yards greater distance; but the above is certainly the full average, in my opinion. I am not now speaking of picked, but average guns, by first-rate makers.

SECT. 2.—CHOICE OF A GUN.

TRIAL OF THE GUN.—The maker having received his orders, will produce one or more guns for inspection and trial, and the following is the mode in which that trial should be effected. Every gun, if made to order, should be carefully examined before it is engraved, as in that state the slightest flaw may be detected; but now-a-days gunmakers have, generally, no difficulty in fitting their customers with ready-made guns, and then the whole dependence must be placed on the character of the maker, as far as safety is concerned. It is very easy for the experienced eye to detect, in a moment, whether or not a gun has been highly finished, but few have had that amount of experience which will be serviceable to them here. The worst guns are now filed smoothly enough, and even in them no eye can detect the bumps and lumps which Colonel Hawker speaks of as distinguishing the bad from the good barrel. It is not in this point that the inferior gun is deficient, for all of these being worked by machinery, the surface is easily made true; but it is in the quality of the metal, and its forging, that the chief difference lies, as well as in the superior filing of the best barrels, and the delicacy and accuracy of the locks, and other fittings, which are very important to safety, and also to correct shooting. To try the gun, it is only necessary to fire it at some mark which will show the result, such as a quire of thick brown paper, or any similar material; or at an iron-plate, covered with whitewash after each shot, and which shows the strength of the shooting, as well as its closeness and regularity. At forty yards, an ordinary fowling-piece ought to deliver its shot regularly over a thirty-inch circle, leaving no space of the size of a partridge without a shot in it. If a choice is to be made between certain guns, and that choice depends upon their relative driving powers, it is very easy to test them, by trying the number of sheets of paper into which each will drive a given quantity of shot; but due regard should always be had to the regularity of the delivery in a given number of discharges. Some guns vary much in that point, sometimes scattering their shot much more than at others.

SECT. 3.—CLEANING THE GUN.

THE CLEANING OF MUZZLE-LOADING GUNS should be conducted as follows:—Get a bucket half-full of cold water, then place the barrels upright in the water, and insert the cleaning-rod armed with a piece of sponge, or cloth, or tow. Work this well up and down. Then change the barrels to a jug, or other vessel of clean hot water, and remove the lead attached to the barrels by the wire-brush. Now take them out of the water, and wipe all clean inside and out; then pass an oiled *rag*, not tow, down the inside, and rub over the outside with the same. All the iron-work should be slightly rubbed over with fine neat's-foot or salad oil.

Breech-loaders do not require any washing, inasmuch as they have no powder chamber to cake up and require water to dissolve the residuum. If they are left for twelve hours the slight residuum in the barrels becomes moist by attraction of water from the atmosphere; and by using a damp sponge or piece of tow, the whole internal surface may be cleaned out, finishing with a clean, oiled mop of wool. This leaves the inner surface as bright as when new, which state ought to be maintained for a long time. If either gun has its barrels leaded (which never ought to occur in the breech-loader), the scratch-brush must be used till the lead is removed.

Sect. 4.—Accessories to the Gun.

Gun-Cases and their contents.—All the *additamenta* should be contained in every gun-case, which is made either of wood or leather; the latter being, I think, the most convenient on account of its greater portability. The appurtenances to the muzzle gun are comprehended under three heads—1st, the shooting materials, including powder-flask, shot-belt or pouch, cap-holder, and wadding-punch, with wadding; 2nd, the cleaning materials, including cleaning-rod, complete with its several heads and tow, cloth, linen, oil, &c.; nipple-wrench and turn-screw; 3rd, spare articles, a spare ramrod, nippers, a macintosh cover, spare powder, shot, and caps, with patent wadding when used; also, Eley's cartridges.

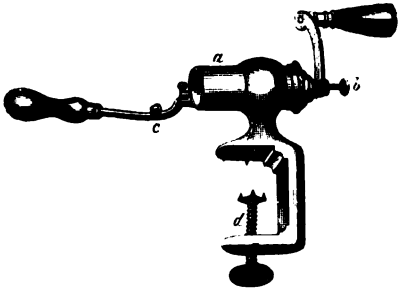
The Copper-cap is now universally employed for general purposes, but for punt-guns, where much wet is often experienced, a different mode of ignition is employed; this we shall explain under the head of wild-fowl shooting. In purchasing caps, be careful that they are of the kind called anti-corrosive. Eley's waterproof caps are made with a layer of India-rubber, and answer the purpose well; indeed, I believe they may supersede the necessity for the side-primer in punt-guns.

The Powder-Flask and Shot-Pouch are too simple and too well known to need description. Syke's improved flask with the double spring closing slides, is the most convenient and safe.

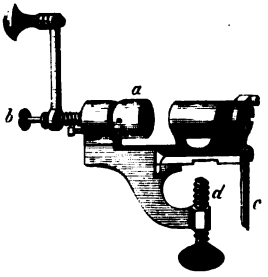
The appurtenances to the breech-loader are a supply of cartridge cases, either empty or loaded. If the former, a loading machine must be added, of which there is great choice, about a dozen different plans being in the market as I shall presently show. Beyond these and the powder, shot, wads, &c., required for loading, if the sportsman performs this important task, there is only needed the apparatus for cleaning, which is the same as for the muzzle-loader, viz., a cleaning-rod with proper heads, an oil bottle containing a supply of neat's-foot oil, tow, and a macintosh cover for the gun.

Cartridge Cases.—The cases or shells for the Lefaucheux gun, commonly known as the pin cartridges, have already been described at page 26. Mr. Lancaster's is similar in being composed of brown paper with a brass capsule at its base, but here, instead of a chamber for a cap, and a pin passing through to explode it, there is a perforated plate charged with detonating powder, which receives the blow of the pin from behind, with the copper or brass capsule intervening. The latter is not perforated, so that there is not the slightest escape of gas. In Snider's case the centre of the brass capsule is perforated and rivetted to a small chamber inside, in which is placed from behind a cap containing a small brass anvil. When this receives the blow, it explodes in the usual way, and the cap exactly fitting, there is no sensible escape of gas.

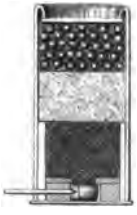
These cases were for a long time only made in France, but as soon as the breech-loading gun was generally introduced in England, the Messrs. Eley, of London, took up the manufacture, and soon produced an article equal to the French. Their example was followed by Ludlow, of Birmingham, and others, but they still have the command of the English market. The important points to look to in these cases, are, 1st, strength, so that they shall not burst, and will then admit of a second, and even a third loading; 2nd, uniformity of size, without which, all cannot fit the chamber, but will be either too tight or too loose. To ensure this, every sportsman should have an iron or box-wood gauge, which is exactly that of the chamber of his gun, and he can then examine for himself or by his gunmaker, if he prefers it, every case before loading it. They should fit the chamber easily, and consequently the gauge as well. The Messrs. Eley also now make the central-fire cartridge. The price of these cases varies from 30s. a thousand to 50s. empty, or, about one halfpenny a piece on the average. The best cases will admit of reloading, and, indeed, I have tried some of the French cases sold by Bussey, of Dunn's Passage, New Oxford Street, at 30s. a thousand, which will bear a second charge, and even a third in many instances. There is some trouble in introducing a fresh cap, unless the point of the pin is reduced



HAWKSLEY'S MACHINE.
SHEFFIELD.

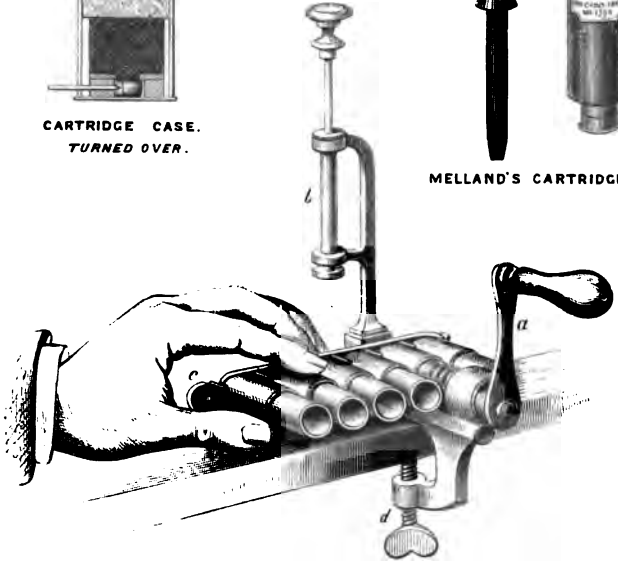


MELLAND'S CARTRIDGE-TURNER



CARTRIDGE CASE.
TURNED OVER.

MELLAND'S CARTRIDGE FILLED.



BUSSEY'S CARTRIDGE FILLING MACHINE.

in size, when a cap no larger than the diameter of the pin is placed upon the point, and pushed into the hole in the case till it bottoms, after which, the case may be loaded. Messrs. Bussey's shells are furnished with pins prepared in this way, and caps of the proper size may be obtained of them. Of course, this reloading will only be attempted where price is an object, as the saving is only one-farthing per shot at the outside, and the additional trouble will be objected to by many. In some of the cheap cases, the caps are charged with inferior detonating powder, and the consequence is, that a misfire occasionally occurs. Such an event should not happen in more than 1 per 1000, which is far less than the average of misfires in the muzzle-loader.

A little instrument for removing cases which have stuck, and called the cartridge extractor, is sold, but it is very seldom required. Still it should be kept in the pocket for fear of accidents.

The central-fire cartridge is made and sold by Daw, of Threadneedle Street, and by Messrs. Eley, of Gray's Inn Road. It differs in having a cap introduced from the outside, through the middle of the base of the cartridge into a little brass chamber made just to fit it. In order to effect the detonation of the powder within this cap, an anvil is introduced, the base of which rests on the bottom of this chamber. Mr. Daw makes this anvil fluted, but Messrs. Eley find that the method adopted in the original Pottet cartridge answers quite as well. This consists simply in a piece of stamped brass forming a strong septum in the cap, and acting equally with Daw's as an anvil for the blow. Under the ordinary pressure of gas with three drs. of powder no escape occurs, but with very large charges, or in the rifle, the cap breaks and some gas passes to the striker. Hence it is not a good plan to connect this last-named part directly with the tumbler, as the gas then passes into the interior of the lock. These cartridges are loaded exactly like the pin cartridges, but they may be re-capped with far greater facility.

THE CARTRIDGE FILLING MACHINE, invented by Jeffries, of Norwich, until lately has had the complete run of the trade, but during the last two years several rivals have appeared, and one or two of them seem likely to supersede it. The object of all these machines is to ram down the wads sufficiently, and then to turn over the edge of the paper case so that there shall be no danger of the shot leaving the case from the discharge of its neighbour, and entering the barrel, by which it would be rendered liable to burst. In doing this, some machines are apt to crush the cases, a defect that not only tends to make them weaker, but also prevents easy loading and unloading, without which, the breech-loader loses its principal advantage. Hence the machine which combines portability and cheapness with perfect and rapid execution of its work will be preferred. Of those which I have tried, I should select the machines of Jeffries (Norwich), Melland (London), which is a more portable form of Jeffries' machine, and Hawksley's (Sheffield).

Commencing with the most simple of the three, Hawksley's, we find it consisting of a simple cylinder (*a*), to which is hinged a lever, having a knob (*c*), which, by means of the left hand, is pressed into its open mouth. At the opposite end of this cylinder is a rotating cup, so cut on its inner face as to turn down the cartridge-case when pressed against it by the knob (*c*), already mentioned. The plunger (*b*) pushes out the case when turned down, and the screw (*d*) attaches the machine to the table. This is a very simple and efficient machine, doing its work extremely well, and sold at 15*s*.

Next in simplicity comes Mr. Melland's machine, closely resembling in principle that well known as Mr. Jeffries', of Norwich, but much more portable, and in smaller compass. It differs from Hawksley's chiefly in the fact that the pressure is made by the screw worked by an ordinary handle, and driving the cup (*a*) against the open end of the cartridge, whereas in the Sheffield machine the power is applied at the base. The plunger (*b*) is exactly the same as in the last-described machine; but there is the addition of the lever (*c*) in this, to turn up and thus form a base for the cartridge-case, requiring also to be turned down again in order to liberate it after the work is done. This is also a very simple and useful machine, and the price being the same as that of Hawksley's, there is nothing to choose between them in this respect. The power being applied by a screw instead of by directly from the hand, renders it more suited to those who are not capable of sustained exertion; but we fancy that there are few strong enough to carry a gun who would find fault with the Sheffield machine, in this respect.

Mr. Jeffries' plan requires no description beyond that given of Melland's, except that it has in addition a spring rammer, under

which the case is placed to receive a light blow which shall ensure the proper seating of the wads. This is also added to some of the Sheffield machines, and should be adopted, unless a separate loader is preferred, as suggested by Mr. Melland. His machine is better adapted than any other to turn over the central-fire cases. His loader facilitates that operation very materially to those whose fingers are not quite nimble enough to effect the introduction of the wads without some assistance. The empty case is pushed up into the tube as far as the shoulder will allow, and while there receives the powder, wads, and shot in succession, the wads being easily driven down by the rammer through the bell mouth of the filler. Practised hands will, no doubt, fill one hundred cases in less time by arranging them all on a table and filling them in succession, first with powder, next with the felt wads, then with the shot, and lastly with the thin wads; but to other people Mr. Melland's tube will be an advantage both in facility and expedition.

Messrs. Bussey and Co. have attempted to combine all these advantages in one machine, and their plan is certainly attended with the advantage of rapid loading and turning over. It differs from the ordinary plans in the following particulars:—Instead of the fixed cylinder, in which the cartridge is placed, to be submitted to the action of the turner over, it has six chambers, which are together capable of being removed for the purpose of loading—by which such increased rapidity is obtained, that from 180 to 200 cases may be filled and turned over per hour. The process is as follows:—Detaching the chambers by turning the handle (*a*), the cases are inserted, and the hinged bottom (*c*) being restored to its position, they are placed perpendicularly upon the table, and the powder, wads, and shot inserted in their turn. Each is then held under the rod (*b*) to be rammed home, after which, taking them horizontally in the left hand, they are successively submitted to the screw turned by the handle (*a*), after which they drop out of the chamber by turning the hinged bottom (*c*). The idea is ingenious, as, no doubt, there is some little difficulty in loading the cases without any support, and certainly by Mr. Bussey's new machine this part is rendered more easy, and the whole operation more expeditious, but it requires practice.

GUNPOWDER should always be perfectly dry, and is generally in that condition when uncorked from the canister; if, however, it is allowed to get damp in the flask, or after the canister is opened, the only safe way to dry it, is to get some plates which have been heated in an ovén, or before the fire, and pour the powder backwards and forwards from one to the other; as soon as the two plates are cooled, fresh ones must be supplied; but the object is generally soon attained with a moderate quantity of powder. A safer plan, recommended to me by Mr. Lang, is to place the flask, full of powder, in a basin of boiling water, which will raise the strength, as proved by the *epreuvette*, a couple of degrees. The drying should be effected at a distance from any fire. Messrs. Pigou and Wilks, Messrs. Hall, Mr. Lawrence, and Messrs. Curtis and Harvey have the reputation of producing the best powder for sporting purposes. Powder, generally called No. 2, which is not over-fine, is the cleanest and the best for muzzle-loaders, being fine enough to enter the nipple, without being so fine as to foul the gun. The coarser grain, No. 3, cannot enter the tube of the nipple, so as to ensure certain firing, but for breech-loaders it is to be preferred. For heavy charges, such as are used in punt-guns, coarse powder is much more desirable. Gunpowder is invariably composed of nitre, sulphur, and charcoal; but the proportions and mode of manufacture vary in some degree. The nitre should be very pure, and especially free from common salt, which, by attracting moisture from the atmosphere, prevents the proper ignition of the powder. The sulphur ought also to be purified, and the charcoal should be carefully prepared from alder, dogwood, or willow. These woods are charred in iron cylinders, and the charcoal is afterwards ground, and, like the two first ingredients, it is passed through a proper sieve. The three are then mixed, and spread upon the grinding-stones, which are calcareous, to prevent the risk of ignition by flint; the composition is moistened so as to make a dry cake; and, after some time, it is sent to the corning-house, where it is first pressed into a hard mass, and then broken up into lumps, which are again reduced into various sized grains, by rotation, on a disk of hard wood, in a sieve of parchment, perforated with holes varying according to the size of grain desired. The corned powder is then hardened, and polished by being made to revolve rapidly in a cylinder; after this the operation is completed by drying, which is effected by steam.

SHOT.—The different kinds and sizes of shot are as follows, according to the list issued by Messrs. Walker and Parker, who are generally considered the first makers of the day:—

MOULD SHOT.

L. G. contains in the oz.	-	5½	pellets.
M. G. " "	-	8½	"
S. G. " "	-	11	"
S. S. G. " "	-	15	"
S. S. S. G. " "	-	17	"

PATENT DROP SHOT.

A. A. contains in the oz.	-	40	pellets.
A. " "	-	50	"
B. B. " "	-	58	"
B. " "	-	75	"
1 " "	-	82	"
2 " "	-	112	"
3 " "	-	135	"
4 " "	-	177	"
5 " "	-	218	"
6 " "	-	280	"
7 " "	-	341	"
8 " "	-	600	"
9 " "	-	984	"
10 " "	-	1726	"

Dust shot variable.

For general purposes, No. 6 is that usually preferred, and, as an average shot it will suit well throughout the season; but let it always be remembered that, *cæteris paribus*, small bores take smaller shot than larger ones. Later in the season, No. 5 may be introduced into use. Some shoot with No. 4, and others again consider No. 7 or 8 not too small; but every sportsman has his own fancy, and much depends upon the distance at which he generally shoots. Some men prefer dropping their game as soon as they are on the wing, and for them a scattering gun and small shot will answer the purpose better than a close-shooting gun with larger shot. Others, on the contrary, wait to cock their guns in the most deliberate way, and always allow their birds to get forty yards off before they fire; for these a larger shot must be used, or their game would almost always escape. Many men use mixed shot; but I believe this plan is essentially bad, producing an irregularity in the delivery which constantly leads to disappointment. Sometimes also it is oiled, but this also appears to be perfectly useless —though no doubt it is harmless, which cannot always be affirmed of useless inventions.

ELEY'S CARTRIDGES.—This invention is only of use towards the end of the season, when game of all kinds becomes wild and difficult to approach. They are now much improved upon the original plan, and really deserve the encouragement of the sportsman. The best plan is to keep one barrel loaded with the cartridge, and the other with ordinary shot. There is no doubt that they will kill at a greater distance than the ordinary charge of shot, and at short distances they act like a ball, and can be used in the same way. Many believe that they wear out the gun very rapidly, by increased friction, caused by bone-dust used in their composition, but there is no truth in this idea.

WADDING.—Almost all sportsmen now use, for common purposes, punched wadding, made either from pasteboard or felt prepared with various oily matters. The latter seems to prevent leading, but in spite of it some guns will acquire a lining of this metal. The wadding acts by impeding the explosion of the powder, and interposing between the shot and it, thus converting the shot into a kind of bullet till it leaves the barrel. For both muzzle and breech-loading guns the thick felt wad is now universally employed over the powder, and a thin pasteboard wad over the shot, it being desirable to avoid all unnecessary compression of the lead as it is passing up the barrel. The felt costs about 14*s.* per 1000, and the card 5*s.* per 1000.

SECT. 5.—LOADING.

The old plan of loading, by filling a measure with powder, and then refilling the same with shot, is now almost entirely given up, except by the remnants of the last century. The spring powder-flask is, however, not free from danger, as in using it the charge may be ignited in the barrel, from a piece of burning tow or cork being left in it after the last discharge, and a communication being kept up with the powder in the flask, a very serious explosion has sometimes taken place; but by taking care to allow the spring to drive the slide of the flask well home before the charge is poured into the barrel, even if it is fired, then no further damage would be so likely to take place. Most guns require about as much powder as shot, *by measure;* that is, about one-seventh by weight, since shot generally weighs from seven to eight times as heavy as powder. For most guns, the following proportions will be the best—viz., from 2¾ to 3 drachms of powder, with from 1⅛ to 1¼ ounce of shot. This is a smaller proportion of shot than was formely directed; but I am persuaded that guns are more frequently overloaded with shot than the reverse. After using the powder-flask, and returning it to the pocket, drive down each barrel with the ramrod, a single piece of felt wadding. Give this two or three

smart taps when home, by which the powder is driven well up into the nipple; then pour in the charge of shot, drive down another thin wad, return the ramrod, and take up the gun to put on the caps. These may be either carried loosely in the pocket, or in a charger, which latter has the advantage that it can be well used with the glove on, whilst the caps are too small for the fingers covered with leather. Before putting the cap on, examine if the powder makes its appearance at the nipple; and if not, give the gun two or three smart blows with the hand. No gun can be considered certain of discharging without this precaution, unless in very perfect order. After this, place the caps on, and push them well down with the thumb, not with the cock or striker. The gun is now ready for use. As guns vary much in their shooting, it is well to try various charges of powder and shot with the one which you are about to use, and to select the proportion of each which seems to suit your piece the best; but this is better left entirely to the gunmaker. The old shot-belt is now superseded by the shot-pouch, which performs its part wonderfully well, being everything which can be wanted, and safe in every way.

The following rules should be carefully remembered and followed in order to prevent accidents during loading:—

Rule 1.—Always uncock the loaded barrel of your gun after discharging the other. The loaded one should be left at half-cock, and the other with the striker down on the nipple.

Rule 2.—In loading the last-discharged barrel, always keep the loaded one farthest from the hand.

Rule 3.—Never put the caps on before loading—the cock may slip, even with the best lock. Moreover, the powder is prevented from reaching the end of the nipple.

Rule 4.—After the caps are on and pushed home, never leave the cock down on them, as in this position a blow on the cock, or even on the butt, may occasion an explosion.

Rule 5.—Never point the gun, or allow it to be pointed at, or passed by, either yourself or any living object except the game you are in pursuit of. This rule is especially necessary during cocking and uncocking, when the cock is very apt to slip from the hand of a cold or awkward person.

Rule 6.—In breech-loading guns, always remove the loaded cartridges on leaving the shooting-ground, which can be done with the greatest facility.

Sect. 6.—Price of Guns.

The price of the ordinary percussion-gun varies more than that of most articles—ranging from 2*l.* to 50 guineas for a double-barrelled gun, without its complement of powder-flask, &c. The first is out of the question with the sportsman, and the guns sold at that price *must* be made to sell, rather than for use. Nevertheless, thousands are sent abroad every year, and are used where accidental explosions are of little consequence—that is to say, where life and limb are estimated at a lower rate than a few pounds will balance. The first London makers charge high for their work, but they also pay high wages for first-rate workmen, and turn out nothing but safe and good articles. With these makers, from 50 to 60 guineas is the ordinary price for a highly-finished double-barrelled gun, complete in case, with all its appurtenances. This, certainly, seems a large sum, considering that in Birmingham a gun, which the tyro would scarcely know from the London make, is to be had, in case complete, for from 10*l.* to 30*l.* But many London makers may be named who supply guns at from 35 to 40 guineas each quite up to what is required. Muzzle-loaders are now a drug, so that it is absurd to give any price, hundreds of the best make and in good condition, being to be met with second-hand at from 5*l.* to 10*l.* each. Mr. Lang's prices are as under:—

For a best double rifle, complete in case	48 guineas.
For a best double gun, in case, complete	38 "
For a best double gun, to load at the breech . . .	40 "

The description of the Rifle and Duck-gun will be found under the chapters on Deer-stalking and Wild-fowl Shooting.

Sect. 7.—Shooting Dress.

The Dress of the Shooter will vary according to the season and the kind of sport which he is engaged in; I shall therefore leave its consideration to each particular department.

Sect. 8.—Management of the Gun.

Before attempting to use the loaded gun, the shooter, whether young or old, should always make himself thoroughly master of it. Many of the accidents which so constantly occur, arise solely from a neglect of this precaution; but if the sportsman is early drilled with the notion that he

has a dangerous yet useful weapon in his hand, he will seldom forget the importance of the precept. One or two points should be diligently impressed, the most important one being—*never to point the gun at any time, by design or otherwise, at anything but the mark intended to be shot at.* It is astonishing how often this is neglected. Guns are often pointed in play at females with a desire to frighten them, or at dogs, cows, or other objects, in mere wantonness; or again, whilst carrying the gun, its muzzle is held so as to point to every part of the visible horizon. All this is unsportsmanlike, unsafe, and worse than useless. There can be but three directions at which the gun should ever be pointed:—first, while held with the trigger-guard on the fore-arm, the point should be directed to the earth; secondly, on the shoulder, the point should be directed to the heavens; and thirdly, to the mark, wherever that may be. With this proviso kept steadily in view, even the gun at full cock is perfectly safe, except from bursting.

Sect. 9.—Learning to Shoot.

Let the embryo shooter commence by practising, for an hour at least, with a copper-cap only, and no powder; this will accustom his nerves to the explosion, trifling as it is, and will also teach the use of the trigger. It may be best carried out as follows:—Provide gun-caps, &c., in a good-sized room at night; then get a tallow-candle, and place it at about two yards' distance, on an ordinary table. Raise the gun to the shoulder, take deliberate aim, and pull the trigger. If the aim is good, and the bore of the gun about 16, at that distance the candle will be put out, or its flame will be seen to be affected. Persevere in this practice, and try how often the above feat can be accomplished, and as it becomes more and more easy, bring the gun up more and more quickly. In doing this trick, the gun may be held with the left hand tolerably forward; but in after-shooting, the nearer the fingers are brought to the trigger-guard, the greater the amount of safety; though even with this precaution they are not positively safe, as I can speak from painful experience. When the mastery has been so far gained, that the candle can be extinguished with tolerable certainty at two yards, and the gun feels pretty handy, the next lesson may be taken with powder, out of doors. It is better to do this a few times, than to proceed at once to the use of the full charge. Nothing spoils the nerve of a young shooter like the giving him a kicking gun with a full charge at first.

The Cocking and Uncocking should be diligently practised with the gun unloaded, as it is of vast importance as regards safety to obtain full command over the lock; but in the above candle-snuffing lesson, the pupil has accustomed himself to cock and uncock the gun; and the only difference between the firing with the cap alone, and with powder also, is the increased noise and smoke accompanying the latter.

Shooting Sitting.—After this lesson, put in a moderate charge of shot, say one ounce, and try your aim at any object, such as the stump of a tree, or a particular stone or brick in a wall, or any such mark, which will not readily tell tales if you miss. Do not at first care much about hitting, but fire away until your nerves become quite steady; then try to hit a card or a sheet of paper, avoiding doors, which only lead to accidents, as the pupil is sure to pull the trigger after aiming at a door, even if it has been opened, and a man, woman, or child has made his or her appearance at it. When the card can be readily hit, proceed to take aim at any small birds, &c., which may be seen or come within shot; and when all these still objects can be mastered, the first part of your education may be said to have been satisfactorily accomplished. In taking aim, it is better to keep both eyes open, though many first-rate shots always close the left eye.

Shooting Flying.—This is the grand object of the shooter's ambition, and one which the detonator enables him to accomplish with great certainty, if his nerves are good, and he has only ordinary quickness and tact, improved by practice. The best way of learning to shoot flying is, to begin by tossing up a penny-piece, and then shooting at it while it is falling. Nothing is more easy than to hit this while at its highest point, since it is then almost stationary; but the object should be to hit the penny while descending. A small turnip, also, or an apple, afford very good lessons. Then begin by shooting at any small birds which may cross your path on the wing, in which they will afford good practice as to the necessity for shooting well in front of every flying shot which crosses the gun. The detonator has made this less necessary than it used to be with the old flint, but it must still be done, or the bag will return home empty. According to the speed of flight, must be the advance of your aim; but, on an average, one foot is not too much for most birds, and is scarcely enough for

the snipe when making a shoot; still, if that allowance is made as a rule, it will soon be varied a little by the experienced shot, and scarcely any need be made with the central-firing plan used in the needle-gun, or in that already described as the breech-loading gun of Mr. Lang. Next get some sparrows, or other small birds, and going to an open field, let them fly one at a time, shooting at them, when at about twenty yards off, with dust-shot. If these birds are so scarce as not to be easily obtained in any number, the better plan is to begin by putting a collar of paper round the necks of the first, by which their flight is impeded. As these birds always go straight from you, the gun should be aimed well at them, a little over their backs, and not before them, as in cross-shots. After this, the next lesson may be at any small birds which happen to come in your way, such as blackbirds, or thrushes, or sparrows, chaffinches, &c. These afford very good marks, and will do everything but get rid of the nervousness which the sudden rise of partridges or grouse always occasions at first.

HEDGE-POPPING, as this small-bird shooting is called, is very good practice, and should be diligently followed by the young shooter. Its successful prosecution gives great confidence, and it ensures quickness, and a knowledge of the range or distance at which your game must be killed. There is a sport which is often indulged in extensively by crack shots, which, however, only requires knack and quickness—I allude to

PIGEON TRAP-SHOOTING.—This sport, which had been confined to a few country public-houses since the closure of the Red House at Battersea, suddenly sprang again into fashion in the year 1858, at Hornsey-wood House, where it has ever since maintained its position under the patronage of Mr. Heathcote, who acts as handicapper of the powers of the various shooters. Instead of the old H and T (heads and tails) traps, five are now used, arranged in a crescent before the shooter, at five yards from one another, and at such a distance from each subscriber to the stake as shall be considered to put all on an equality, ranging from eighteen yards to thirty-two. The bird to be released is fixed on by the throw of a die behind the back of the shooter, so that as far as possible all unfairness is prevented, as the person who pulls the strings cannot tell beforehand which he will be ordered to pull. A gun club, for the purpose of promoting this kind of sport, has also been started at Shepherd's Bush, where there is a very good ground, but it is not supported so well as Mr. Heathcote's handicaps. On the whole, it may be said that pigeon trap-shooting is now more fashionable in London than ever it was. The following are the rules now in force, but they are occasionally altered in trifling particulars:—

"1. Two referees and an umpire to be chosen, whose decision shall be final.

"2. A boundary to the shooting-ground must be provided, if not already in existence. It should be, if possible, a boarded fence or a wall, and situated at from eighty to one hundred yards from the traps. These should be placed at twenty-one to twenty-five yards from the shooter; and if five in number, in a curve before him, each being equidistant from the mark, and from five to six yards apart. In the conditions the number of traps should be specified, and whether they are to be pulled at discretion or by tossing; in the latter case, called H and T traps. A bird killed according to the conditions is scored "a fair bird;" if not so killed, a "lost bird;" and if another is to be allowed, a "no bird."

3. The bore and charge of the guns to be used must be specified; also whether single or double barrels. Any shooter using a drachm more shot, or a bore of a size larger than that named, to be disqualified and forfeit his stake.

4. The shooter to call "pull" when he is at the mark ready to shoot. Should the trap be pulled without the word being given, the shooter may take the bird or not; but if he shoots, the bird must be considered taken. If the trap is pulled and the bird does not rise, it is "no bird" at the option of the shooter; but if he shoots at it either on the ground or trap, or after it rises, *and misses*, it is to be scored "lost."

5. A bird must be shot while on the wing in order to score a "fair bird," excepting with the second barrel in double guns, and it must be gathered before passing the boundary either by the shooter or deputy. In doing this one person only must officiate, and he must gather the bird without the aid of any kind of implement. Should the bird perch on the boundary, and then fall back into the ground, it is "lost;" or if it should *perch* in any tree or building, and then fall to the ground, it is also "lost." But if a bird, so hard hit by the shooter that, in the opinion of the referee, it would have fallen within bounds, is shot at by a scout, the shooter may be allowed another bird on the order of the referee; but if a bird is palpably missed, the referee may give it as a lost bird, even if killed within

bounds by a scout. A bird once beyond the boundary is "lost," even if it falls dead within it.

6. In case of a miss-fire another bird is to be allowed, if the gun was properly loaded and cocked, and the miss arose from the cap or other detonating material not exploding; but if, after giving the word "pull," the trigger is not pulled, or the gun is not properly loaded and capped, or does not go off owing to the shooter's own negligence, the bird is to be scored "lost."

7. If, in the opinion of the referee, the shooter is mechanically baulked by his antagonist, or by any person other than his own backers, he may be allowed another bird.

8. Neither of the shooter's feet is to extend beyond the shooting mark, under any pretence whatever, until after his gun is discharged.

9. In single shooting, if more than one bird is liberated, the shooter may call "no bird" if he likes, and claim another; but if he shoots he must abide by the consequences. In shooting with H and T traps, according to the toss, the trap H or T must be pulled at each shot.

10. In double shooting, when more than two traps are pulled, the shooter may call "no bird," and claim two more; but if he shoots he must take the consequences.

11. Either party may, on depositing a sovereign in the hands of the referee, claim to have the charge of his antagonist drawn; but if it should prove not to be over the stipulated weight, he must forfeit the sum so deposited to his opponent.

12. Each shooter in a match or sweepstakes to be at the shooting mark at the expiration of five minutes from the last shot. But, in case of accident, he may claim an extra quarter of an hour once in the course of the match.

13. In case of a tie between two or more in a sweepstakes, it must be shot off during the same day, if there is sufficient light, unless the prize is divided by agreement. If, through want of light, it cannot be finished at once, it must be shot off on the first available day.

The gun selected should be a hard hitter, and for this reason the muzzle-loader is generally preferred by crack shots; but many use the breech-loader, though by far the larger proportion of prizes have been carried off by the former. The pigeons used ought to be blue rocks, but any of the varieties of the pigeon that have been reared at lonely farm-houses will do quite as well, the object being to have them strong and wild.

SWALLOW SHOOTING is another sport which many indulge in, with a view to improve their hands for future shooting at game. It differs, however, so much from most other kinds, that it is of little use. The swallow-shooter generally selects the moment when the bird is balancing herself, in her hawking for flies, when she is in fact almost stationary. If the shooter can kill his swallow when at full swing, and making her shoots, he is perhaps very likely to command a snipe or woodcock, especially the former, whose queer gyrations are something like those of the swallow when avoiding the gun. But swallow-shooters seldom attempt this, and content themselves with killing at the most favourable time. It is, on the whole, a sport not to be recommended, being useless as an improvement to the shooter, and destructive to a very harmless and, indeed, useful bird.

ROOK SHOOTING is of very little use as an introduction to other species of shooting, because it is generally practised with a small pea-rifle, or with an air-gun. No one dreams of shooting these birds sitting, with shot, because they present such easy marks, as to make it butchery rather than sport. The pea-rifle is only a small rifle, carrying a very small bullet, and therefore adapted for the size of these birds, and the distance at which they are generally killed. It is generally now made on the breech-loading plan, either of Mr. Lang, or that of the ordinary needle-gun. This last principle is very simple, being merely a cock which plays against a breech, withdrawn by a lever. The cock is armed with a long needle, which perforates the breech, and discharges a cap placed at the bottom of a cartridge. It is so arranged that, after cocking the gun, the breech can be unscrewed and withdrawn, and then the cartridge is inserted, and the gun is fit for use.

LARK SHOOTING may generally be obtained, as there are few localities where there are not many unpreserved farms, over which the young shooter may roam in pursuit of these birds. It is a capital introduction to larger game, and is deserving of the attention even of more advanced sportsmen than those for whose benefit I am now advising its prosecution. The shooter will find these birds in great numbers on vetches or seed-clover, or lucern, or, in fact, any green-crop which has afforded a cover for their nests. Here the young have been reared, and towards August they remain

there in great numbers. By walking over these fields, enough shooting may be obtained to gratify any young sportsman, and by the end of August he may have attained great excellence in the art. The only drawback to improvement for the purpose of partridge-shooting is, that the larks seldom cross the shooter as partridges and grouse do, but go straight away from him, or rise into the air. In the latter case, they are always out of shot before they begin to hover and sing, or they would tempt their fate sadly, as they would then afford an extremely easy mark. The shooter must aim well over the backs of the larks, as they always rise more or less. With these instructions, the shooter may proceed to the indulgence of his passion, either by grouse or partridge-shooting, or wild-fowl or covert-shooting; a description of each of which will be found under the proper heading.

CHAPTER III.

DOG-BREAKING FOR OPEN SHOOTING.

Sect. 1.—Different Modes of Finding Game.

In shooting, as carried on in this country, the game is found by the sportsman in three different modes,—first, on the open moors, stubbles, and marshes, by means of the powers of the pointer or setter; secondly, in coverts, by the aid of spaniels and beaters; and, thirdly, in stalking deer on the hills, or wild-fowl in the lochs, by the eye of man, aided by the telescope. The present subject comprises the mode of teaching the dog to find game on the open moors, stubbles, and in the marshes. It is one which interests the lover of nature and of sport in as high a degree as any which is followed in this land of sports. It is true, that it is unattended with danger, except from the bursting of the gun or from unpardonable carelessness, and it cannot compete in this respect with the tiger or elephant-hunts of India or Africa; but it displays the instincts of the dog, and man's power over him, in a way to which no other sport can approach. Who that has seen a brace of dogs doing their work in gallant style, and setting and backing with that beautiful and excited attitude, which even Landseer would fail in fully conveying to the canvas, can refuse his meed of praise and admiration to the efforts of their breaker? Here is no unnecessary cruelty; the poor animal sought for is not pursued till utterly unable to raise a gallop, but, unaware of its impending fate, it is killed dead (or it ought to be), and at once put out of its misery. For myself, fond though I am of coursing and hunting, yet neither can, in my opinion, compare in beauty with grouse or partridge-shooting, especially the former. The season is so exhilarating, the country so wild, the air so fresh and healthful, and the constant excitement kept up by the working of the dogs is so pleasing, as to combine in making the sport to me the most captivating in the world. Hunting is, no doubt, like the fine burst of a full orchestra, though often with a long and dreary green curtain to commence, which even sometimes remains down all day. Coursing may be compared to a series of pretty little airs, interrupted by constant dull and heavy intervals, during which there is no amusement whatever, but shooting is one long and delightful song, only interrupted by the mid-day lunch. The drawback to this sport is its enormous expense. No one can enjoy *good* grouse-shooting under 200*l.* or 250*l.* per gun per annum, and this sum is generally far within the expense of the best moors. Partridge-shooting is not so expensive; but even this sport will entail an expenditure to each gun of from 50*l.* to 150*l.* per annum—that is, if preserving is carried on to any extent. Wild partridge-shooting, of course, may often be had at the cost only of a little gratitude, but seldom sufficiently good to remunerate the shooter for his trouble, excepting in the first week or ten days of September. Snipe-shooting, it is true, may often be met with, at little expense, but it has not the same charms for me which partridge or grouse-shooting presents. The dogs cannot range in the same bold and dashing manner, for the body of the bird is too small to give out scent enough to be felt at any distance by the pointer; hence, it requires an old, steady, and somewhat pottering dog for this sport. The first requisites for shooting are the birds themselves, and they would naturally first occupy our attention; but as the two principal varieties of

open-shooting are only very slightly different from one another, I shall first describe the general principles in which the two agree, and then proceed to describe the peculiar characteristics of each. Open-shooting, then, is the pursuit of grouse, partridges, or snipe, by means of the pointer or setter, aided by the gun, and by markers, to enable the shooter to follow up his birds.

Sect. 2. — Characteristics of Ground Birds.

The gun has been already described; and the markers are only specimens of the genus *homo*. In this chapter, therefore, I shall give a general description of the game pursued in open-shooting, and of the dogs by which they are found. A great variety of birds are confined to the ground, and are found only, or chiefly, in the open, as, for instance, larks, quail, landrail, plover, &c.; and in some of their more prominent features they resemble one another. Both grouse and partridges are ground-birds—that is, they do not perch on trees, but habitually frequent the ground, and, until driven there, do not enter woods or covert. They both lie, or squat, when alarmed by the approach of the sportsman or his dog; and, unless very wild, they allow the shooter to get within range before they rise, and they both often run before the dog, especially the grouse. Both give out two kinds of scent—the body-scent, which is wafted by the wind to some considerable distance, and the foot or ground-scent, which they leave behind them, attached to to the surface of the soil. Both keep together in broods until the pairing-time—the nest of partridges being called a covey, and that of grouse a pack. Both are short-winged birds, and yet fly with astonishing velocity for a short distance, affording a fair mark for the sportsman, and trying his skill. Each, as well as the snipe, will be more minutely described under the chapter devoted to an account of their separate pursuits.—(See Grouse, Partridge, and Snipe shooting.)

Sect. 3.—Dogs used in Open-Shooting.

In order to enable the sportsman to find his birds in the open, it is necessary that he shall avail himself of the powers of the dog, in some shape or other. Without his assistance, in the early part of the season, he would walk over many miles of ground before he would put up a covey or pack, because they then lie so close as to elude his observation; and towards the end of the season he would be unable to circumvent them, because he would not know, by his own unaided powers, to what point to direct his attention and cunning till too late to profit by them. At first, the spaniel was taught to hunt the birds within a given distance of his master, and showed his proximity to his game by working his tail and giving tongue. This last sign being inconvenient in consequence of its alarming the birds, mute spaniels were employed, and also a large smooth dog, the pointer, resembling the spaniel in delicacy of nose and mode of working. These dogs were taught to work with great caution, and were at last broken so carefully, that when they caught the body-scent, instead of rushing in and putting up the birds, they were so excited, yet so afraid of incurring their masters' displeasure, that they became stiffened from fear, yet still anxiously desiring to rush upon their prey. This has been cultivated and improved; till at last we possess in the pointer and setter the three essentials which combine to make the most extraordinary specimen of subserviency to man's purposes which any domestic animal affords. There is still the hunting power of the spaniel, its delicacy of nose, its power of standing work, and its lashing of the tail; but the tongue is mute, and the stop from fear has been developed and naturalized into a dead halt, which is really a true cataleptic condition, and which is often shown without the slightest fear of man, in the young puppy pointing in the fowl-yard. The two varieties used, are the pointer, which is smooth, and the setter, a rough dog, more nearly resembling the spaniel. The pointer, again, is either the old Spanish or the modern English pointer; and the setter is either the Irish, Russian, or English. All these several varieties are given and fully described in the chapter treating of the natural history of the dog, in which they form the most prominent feature of the first division, comprehending "those dogs which find his game for man, leaving him to kill it." They all have the same family characteristics; all beat their ground in a regular and systematic way, when well broken; all ought to stand and back; and their education ought to be the same, whatever may be the variety of breed, or game, to find which they may be devoted.

Sect. 4.—Breaking of Pointers and Setters.

In the present chapter, then, I shall take up the consideration of the "setting-

dog," as applied to the finding of game in the open, and shall examine into the best mode of fitting him for the task which he has to perform—this task is, the finding of ground-game in the open without springing it, and the showing that find by the dead stop or point. Now, it will be manifest that to perform this task well, there is required, 1st, extraordinary acuteness of scent, for without this a dog cannot find his birds in the dry hot days of August and September; 2ndly, great powers of endurance, in order to enable the dog to beat over a sufficient extent of ground; 3rdly, steadiness of point, so that the sportsman may have time to come up and get within range before the birds are sprung; and 4thly, implicit obedience—active as well as passive, so that the dog shall not only abstain from doing wrong, but shall also do whatever his master orders him. I shall now proceed to consider the best means of teaching the dog all those several points which depend upon education, supposing, of course, that he has, by natural good breeding, those which are inherent in the animal himself—viz., the two first good qualities enumerated. Many sportsmen may think it great drudgery to break their own dogs; and to some people no doubt it is so, and in fact, by many it is an art wholly unattainable. It requires great patience, coupled with firmness and consistency, and also an amount of tact and love for the animal, which every one does not possess. But those who have these qualities, I should strongly recommend to exert themselves in breaking their own dogs; for there can be no doubt that dogs will never work for others as they do for those who have educated them. Either, therefore, your own keeper should break and work your dogs; or if you hunt them yourself, you should also break them. To me, it is the most interesting part connected with shooting; but as all do not think alike, I offer this advice to those who prefer entrusting the breaking department to their keepers.

BREAKING DIVIDED INTO THREE EPOCHS. — Every dog's education should consist of three distinct parts: First, the preparatory; secondly, the intermediate; and thirdly, the complete. The first should be confined to the house, the road, and the field, without game. The second should not go beyond the finding of game, without killing it; whilst the third should extend to finding, killing, and retrieving it, even though the two last are not effected by him.

SECT. 5.—PREPARATORY BREAKING.

With regard to this first department, many sportsmen think it wholly time thrown away, and that their dogs may be suffered to run wild till the commencement of breaking to game. Now, I am ready to admit that there is some truth in this, for I have seen more dogs spoiled by too early breaking than too late. In this, however, much depends upon the breed and temper of the particular dog. If he is very high-couraged, and well-bred, he can hardly be too soon attacked; but if shy, and not well-bred, it is better to leave his education alone for a while. It is much easier to take the courage out of the very boldest animal, than to put it into a timid one; but I am quite sure, that the first part of the education of the pointer can hardly be too soon commenced, whatever difference of opinion may exist as to the second. Young dogs *must* be taken out to exercise, and *must* be taught to follow; they *must* be prevented from killing poultry and cats, and from stealing whatever is presented to their noses or appetites. While at exercise, they should be taught to come back instantly when called, either by the word "Heel," or "Come to heel," and should be compelled to remain there till allowed to run on, when, by the word being given, "Hold up," they may again range forward, and should be made to do so. Every order should be firmly carried out, and care should be taken that its full execution can be compelled, if it is resisted. Next, give lessons in lying down when ordered, and do not suffer the dog to leave his position till "Hie on" is uttered. With the right hand, and whip if necessary, force the dog to the ground, crying "Down," in a sonorous voice all the time, and at the same moment holding up the left hand, to enforce obedience by sign. As soon as the dog is perfect in dropping at the word "Down," or at the hand being held up, begin to try the plan at a yard or two's distance, and if he does not at once drop, walk up to him and make him; then leave him by degrees, and make him lie exactly where you left him, for any indefinite time, rewarding him by a piece of meat for obedience, and punishing him by a blow, or a pull of the ear, if not complying with your orders. Next, take him into his feeding-place, and put down his usual food; then, when he approaches it, cry "Toho, Toho," in a stern voice, and keep him from touching his food, either by a sharp tug of a check-collar, which you may use on him,

or, if his courage is not too high, by the voice alone. If the puppy is under good command in all other respects, he will generally be easily stopped in going to his food, and will eye it eagerly and wistfully, but without attempting to take it. Whenever the dog is taken into the fields, which should only be allowed where there is no game, he should be called back at every fence, or stile, if he attempts to pass or "break" it. If he does, he should be immediately called back, with the rate "Ware-fence," and made to understand that he his never to leave the field in which his master is. This is easily done by checking him *the moment he passes the fence;* not by waiting till five minutes afterwards, as is often done, and then scolding him for a fault the nature of which he does not understand. If he chases any thing, rate him with "Ware-chase," and even chastise him, if this rate is not enough. During the walk, the sportsman should take out a pocket-pistol, and, without noticing the dog, occasionally let it off; but beware of letting it off designedly to attract his notice; this is a very bad plan, and often occasions the very mischief it is intended to obviate. If, however, the discharge is made without reference to the dog, he soon disregards it, and afterwards will not be affected by a similar noise in the field. Beyond this, I would never attempt to educate the young pointer or setter till he is at least ten months old, if a dog, or if a bitch, till nine months of age; but all the above points should be repeated, day after day, and ground into the young dog, till he is as obedient as a machine. Two or three lessons will often *appear* to do all that is required; but it will be found that they are soon forgotten, if not kept up; and that after a month, all will have to be done over again. From the commencement of the first part, therefore, till the time of beginning the second, the dog should be taken out nearly every day; and at least three times a week he should be drilled regularly in these simple first principles, which are useful, as inculcating habits of implicit obedience, and also as the foundation of his future more complicated drilling.

Sect. 6.—Intermediate Education.

This should always commence at a time when birds will lie well, which is only at the pairing-season, or in the end of August or beginning of September. We have, in the preparatory drill, arrived at a stage in which the dog is taught to come back when called, to go on when ordered, to lie down, to stop from gratifying his appetite at the word "Toho," to avoid breaking fence, and chasing cats, pigeons, &c. The several words of command being, "Heel," "Hold up," or "Hie on," "Down," "Toho," "Ware-fence," and "Ware-chase." All this may be taught to any dog, whether greyhound, pointer, spaniel, or house-dog; and there can no excuse for neglecting this part of the education; but in the following divisions, good or bad breed makes all the difference in the amount of trouble required, and in the degree of success which may be obtained. Some dogs may be broken in one day to a greater extent than others can in a month; but, generally speaking, in proportion to the courage will be the difficulty of high breaking. A high-couraged dog will often begin to point as soon as he goes into the field; but the difficulty is to complete his drilling, so as to break him from chasing fur, or from running to his bird when dropped to the gun.

Time to begin Breaking.—The most important point in the intermediate education, is to teach the young dog to range and beat his ground regularly and systematically. The time for this is, without doubt, in my opinion, the months of February and March, when any amount of time may be spared; and with most dogs it is no little which will suffice. Colonel Hutchinson, however, who is certainly by far the best authority extant, contends that the pointer should never be thus broken, but that his education in ranging and pointing should be deferred till his birds can be killed to him. On this point I must beg to differ from him, though I do so most reluctantly, as the greatest part of his instructions are calculated to teach the correct mode of doing that which he wishes to inculcate; but here, I am confident he is wrong, and for the following weighty reasons:—It must be remembered, that the Colonel is writing for the sportsman's use, and not for the gamekeeper. Now, if it is considered that the best part of the season for grouse-shooting and partridge-shooting lasts respectively very little more than a month, it will be seen that a great part of that month's shooting will be spoiled in breaking your dogs. If the whole sport consists in breaking dogs, then I can understand the propriety of devoting and sacrificing your best shooting-days to the operation; but as most men break in order to shoot, and do not shoot in order to break, it will be readily con-

ceded that, if possible, that time should be avoided. Besides this, it will at once be admitted, that the age of four months is too young, and sixteen months too old, to begin to break; and yet that will, in nine cases out of ten, be his age in the September of the first and second years of a pointer's existence. No one would dispute the Colonel's reasoning, if his premises were good; that is to say, if it could be shown that a dog *cannot* be well broken at pairing-time; but when it is notorious, and when I know, from my own experience in numberless instances, that the thing may be done, I cannot admit the truth and correctness of the data upon which he reasons. I have seen pointers go out, and stand, and back, the first day they ever saw game, but they were never made good dogs; nor did I ever see a dog which finally was of a first-rate class, made perfectly steady in one day, or even in a week. Two grand points are required—good finding, and good working-powers. With good finding-powers, a well-bred dog often becomes steady at the first or second point; but if his powers of endurance are good, his courage is generally so high, that at first he will be sure to chase his game when his eye catches sight, or to run to it when it falls. These errors (for errors they are as regards the sport, though venial in the puppy) require time to correct; and the act of correction generally spoils your shooting, by frightening your birds, and irritating your own nerves. My advice, therefore, is to do all which can be done without the gun at the pairing-time, and to carry on to a second stage the lessons already begun. At this time, the dog should be taught the following further lessons:—First, to range; second, to point; third, to back; fourth, to down charge; and the whole of the lessons inculcated in the first stage may be still further drilled into the dog, especially as to breaking fence and chasing. In fact, his education may be thoroughly completed, and he may be taught everything which will be required in September, unless it is wished that he should retrieve, which I believe to be in all cases very injurious to the pointer and setter—but of this hereafter. Let it, however, be remembered, that however steady you may get a dog in the pairing season, and without the gun, yet in August or September, when he sees the birds tumbling about his ears; and, moreover, when, instead of single birds before him, he scents and sees, perhaps, fifteen or a score, he will at first be maddened by excitement, and will require a little correction. This is, however, very different to entire breaking, and will seldom take many hours, as the dog is only to be corrected, and not taught. I have already remarked upon the difference between putting courage into a dog and taking it out; and the same may be said of the difference between putting sense into his head and taking it out. When once you have made him understand what he ought to do, half the battle is over, and you may correct him to any extent, without fear of injury; but beware of punishment without his knowing why. I have had more than one dog which would, from excessive high courage, occasionally chase hares, or even birds, and would refuse to hunt till he had come to me to receive a flogging; immediately after which he would jump off, and work and point better than ever. These dogs did wrong knowingly, and I had no scruple in using the whip, and indeed without it they were never worth a farthing. Again, I have had others which would never do wrong knowingly, but would, in their extreme anxiety to find, be constantly making false points. Here, the whip would be worse than useless, and the only remedy is the grave—that is to say, if it is a confirmed failing. Well, then, having settled this knotty point, at least to my own satisfaction, I shall proceed to point out how the young pointer may be broken at pairing-time, intending the word pointer to apply to setters also.

The Range should be carefully taught, and in teaching it the pointing instinct is sure to be developed. Take out your young pointer at first with a wide-ranging dog, not too old, but perfectly under command. "Hold up" both, and take no notice at first of the young dog till he clearly understands what the sport is; this will not always be apparent to him till the other dog has found a bird or two; but when the young one sees the other stand, he is sure to be attracted to him, and he goes up in a wondering and curious manner, and begins, as it were, saying to him—What in the world do you look so stiff for? The puppy then sniffs about, and finally puts up the birds, upon which he expresses great delight, and chases them a few yards, or, if of high courage, as far as he can. I always like to see this; if well bred and healthy, there is no fear of his pointing steadily, and the desire to chase is an indication of courage. After this, the young dog begins to range on his own account, and as soon as he will do so freely, I should dispense with the services of the

old dog, for various reasons, not the least of which is, that he will derive no benefit himself from seeing the bad performances of his young and raw companion. Then, taking the young dog out by himself, begin at once to make him range to hand; make him work to the right by waving the hand in that direction, and to the left by doing the same to the left. Work him towards you, by waving the hand to you; and from you, by casting the hand under, as in bowling. In doing this, if the dog does not readily comply with your orders, proceed to him, and, by your own example, induce him to follow your instructions, leaving no stone unturned to render him perfect in this all-important lesson. High-couraged dogs will readily take to their work, and will gallop at a very great pace for many hours together; by all means encourage this, and do not begin to rate them till they clearly understand what you want; never mind their flushing a few birds; this they are almost sure to do; but their instinct tells them that they have a more sure way of getting game than by chasing it, and after a few hours' work they begin to point. During this lesson, the breaker should give the dog every advantage of wind, and should endeavour to hunt him exactly as he will hereafter do when using the gun, going steadily upwind, and working always in that direction, whether in the fields of enclosed countries, or on the open moors. If in the stubbles or young wheats, this cannot always be effected; then keep the young dog at heel till you have reached the leeward side, when he may be "hied on," and turned to the right or left. By no means should he be suffered to make his own selection; and if he goes off without orders, bring him back, and start him off in the contrary direction. When he has proceeded about from 60 to 100 yards, right or left (which, in an enclosed country, generally brings him to the hedge), whistle to him, and when you have caught his attention, wave him forward; then after he has gained 30 or 40 yards in the forward direction, wave him towards you. He will, in following your last order, cross immediately in front of you, because you have been walking forwards gently during his progress, and as he will gallop about four times as fast as you walk, while you are walking 40 yards forward he will have reached the hedge, run up 30 yards, and reached your front again; that is, 65 yards + 30 yards + 65 yards = 160 yards, or four times 40 yards. Repeat this operation in the opposite direction, waving him on as he passes in front of you, till he reaches the same distance to the right or left, then take him forward, and wave him to you again. In this way he will learn to beat the whole ground, by taking a breadth at a time, and will perceive the scent of any birds which may lie within thirty or forty yards of his line of beat. It is a very difficult lesson to teach, and requires great perseverance and tact to carry out with strictness and full success. Many days must be spent, and the dog will be steady enough to his "point" before he will have learnt it. It should always be taught single-handed, since the young dog is very apt to acquire the habit of following an older one, and hunting with him, a trick which it is very difficult to break him of, and one which is unsightly and worse than useless, from exciting jealousy in the leader. Besides, most old partridge-dogs get a trick of running up the side of the hedge, and pottering there for game, generally rabbits, which they are very fond of making out. Now, this is a habit especially to be avoided, and yet it is the one which young dogs soonest acquire from others. They are some time learning it themselves; but the presence of hedges seems attractive to all dogs, and from the first they should be carefully watched when near them. The moment they dwell there, without birds are before them, call them off with the whistle, and send them forward, or to the right or left. Do not suppose that the gun is required to develop the desire to range; if a dog is well-bred, and of high courage, as soon as he gets the first puff of the body-scent, he is sufficiently excited by it to induce him to hunt for many weeks together without hearing a shot fired. If a dog will not work with this stimulus in the spring sufficiently to learn his trade, depend upon it, when the hot days of August arrive, and the ground is like iron, he will soon leave his master in the lurch, and refuse to work for him. I would not own a dog of this character, and I care not how he may be broken; but with a good and well-bred dog, the plan I have advocated is, I am sure, the correct one. When the range, single-handed, is completely taught, it will not yet do to commence working double; but I shall omit all reference to this, as nothing is so easy as to put two good single dogs to work together, as far as range is concerned, if they work to hand, which a compliance with the above lesson will always enforce. Besides the usual quartering of the ground, there is another kind of range which must be taught—viz., that in which the pointer is lifted to the end of your beat, and made to work to you, as in a

field for partridges, or with grouse, at the edge of a beat, when the wind is from that edge. In such a case, the sportsman should remain on the edge, and send his dog to beat to him; but it is very difficult to teach. It can only be done by degrees; but by patience, most dogs may be taught. The dog must be sent on by the hand, then stopped by the whistle, and made to turn to the right or left; then, when he has beat a sufficient distance, whistle, and catch his eye, beckon him to you, and after he has come forward, wave him to the opposite side, and repeat the instruction till he is quite under command. It is very useful towards the end of the season, as partridges and grouse will often lie with the dog beyond them, when they would run or get up wild if he pointed on your side. Its full perfection shows a very highly-broken dog.

Pointing, Setting, or Standing.—These three appellations are given to the stiff cataleptic condition which the pointer or setter assumes when near his game. I have already remarked, that it comes on without teaching in the well-bred young dog, though there can be no doubt that, originally, it was an acquired habit, and that in the present day it may be taught even to the greyhound or the lady's lapdog. It only requires a good nose, which even the greyhound possesses in a greater degree than he usually gets credit for, and which I have succeeded in developing in him, for curiosity's sake, to the full extent of pointing. By working the young dog in teaching him to range, in all probability several birds will be sprung; at first the dog stands astonished, then he runs cautiously forward, working his stern, and inhaling the foot-scent left on the ground; while doing this, the breaker should walk up to him quietly, crying, "Toho! toho! toho!" in a prolonged and bass voice, but not in a scolding tone. It is now that the breaker, if a bad one, produces a fault which can only be acquired from bad breaking—this is "blinking." It proceeds from a want of discernment in the breaker, who chastises the young dog for not pointing, whereas he should never do so until the point has become confirmed. When once this takes place, and the dog leaves his point to run up birds, the whip may be used, but very cautiously, unless the courage is very great. "Blinking" arises from a dog being disgusted with his business; and, as the presence of birds is associated with the whip, he naturally leaves them, from a dislike to that unpleasant alternative. The whip will never produce the true point, though it will steady it when once produced, and there is then less fear of disgusting the dog, already too much excited to care about it. When he gets to the dog, he should pat and encourage him, still crying, "Toho," and letting him lie on the foot-scent for a few seconds while thus patted; then, not letting him dwell any longer, cry, "Hold up!" and proceed with the range. The next time the pointer comes near birds, the chances are that he scents them, and makes a slight stop, as if astonished; he then draws quickly forward, and puts up his game, which this time he generally chases. If the breaker is near enough, he should "Toho" the dog as soon as he feels his game, which will tend to make him dwell longer on the point, but not often, to make him get stiff and steady. Each successive find makes him more and more stiff, and by repeating the "Toho," and increasing the encouragement in proportion to the increased length of stand, the dog becomes hourly improved, especially if he beats a considerable quantity of ground, and thereby tires himself. If the dog, after the first five or six finds, continues to chase the birds, he should be brought back with the already-taught rate, "Ware-chase;" but I have always found that, at first, it is better to avoid all rates if possible. Reward is the first essential to success; and when the system of encouragement has produced the zest, and it begins to lead to an overflow of spirits, the repressing hand of man may be exercised, but always with due caution. Whenever it is necessary to use the whip, let each stroke be followed by a caution in reference to the particular offence. Thus, if for chasing, "Ware-chase" must be repeated again and again, followed each time by the stroke of the whip, which bites in the words used. There is one most important particular to be invariably observed in using any correction—never let the dog leave you till he has made friends with you; do not hit, and let him escape without forgiveness, but keep hold of his collar (which every pointer and setter should wear) until you have done the scolding part; then gradually alter your tone, and appear to forgive him, by changing your manner; finally, pat him, cry, "Good dog, then," and let him start afresh. Some breeds will scarcely bear the whip at all, whilst others are no use without it; and this latter condition is especially seen in the setter and the pointer crossed with the foxhound. This cross is very valuable, when well kept in hand, but he is a most unruly

dog by nature; he can hardly be over-punished, and never owns a master till he has exercised his authority by using the whip. When the point is once steadily made, so as to allow the breaker to walk up to his dog before the birds are sprung, he should pat and encourage the dog for some minutes, if possible, using the "Toho" in a low, cautious, yet pleased tone. This at once gratifies the dog, yet teaches him to exercise his caution; and the breaker should take care to crouch all the time, as if anxious to avoid springing the birds. All these little points are soon caught by the dog, who is a very highly imitative animal. Now, still patting the animal, crouchingly walk forwards, leaving him standing, and put up the birds; upon which he will attempt to come up, and perhaps chase, but he must now be made to drop, by crying, "Down," raising the hand at the same time, to enforce obedience. Keep him down for a few minutes, then pat him, and encourage him, and "Hold up," as before. This lesson must be repeated till the dog is perfectly steady at his point, refuses to chase, and is "Down" the moment the birds are sprung. If the point is a false one—that is, if the birds are gone, cry out to the dog, "Gone away, gone away;" and make him understand that it is so, by kicking the grass or stubble, which shows him that they are really gone. Some dogs are very difficult to convince, especially if bred in-and-in, by which their cataleptic tendency is developed, and their reasoning powers made subservient to it. It is unnecessary to enter upon the mode of teaching dogs, other than true-bred pointers or setters, to point. It is a tiresome task, and requires some degree of cruelty, by means of the check-collar and whip. As I said before, *any dog* may be taught, but few will be serviceable in the field; and, as the true breed are so easily obtained, it is quite unsportsmanlike to attempt the use of any other.

Backing.—The young dog has now been brought to perfection, as far as he can be, for single-handed work, without the gun. The next lesson must be devoted to the instruction necessary for teaching him to "back," and to beat his ground, in conjunction with his fellow. It must be remembered, that all this time the breaker has been cultivating the dog's love of approbation, which in this breed is peculiarly strong; he must now take care that it is not carried so far as to produce jealousy; this feeling is the bane of the shooter, and should be put down when manifest, *vi et armis*. Most young dogs will try to get nearer to the birds than the one which first found them, and in doing so, will generally put them up. For this, they should be brought back to a place a full yard behind the first finder, and then made to stand, and well rated in a scolding voice by "Toho;" and, after a repetition of the offence, by even a smart blow or two, according to the courage of the dog, and the nature and degree of the offence. When put to hunt together, dogs almost always watch one another, and the moment one finds and stands, the other catches sight of him, and at first is sure to run on and put up the game; or, if steady single-handed, and he has an equally good nose, he also points either a little before or behind the first finder. Some very high-bred dogs, the first time they see another point, are rendered stiff, as if by sympathy, and "back" at once; but generally it requires the following process to be gone through:—As soon as the auxiliary, which should be a very steady dog, has pointed, and the young dog has caught sight, the breaker should call out his name, and add to it the word "Toho," repeating it in a scolding and cautioning tone, thus, "Bacchus! toho! toho! toho!" This use of the dog's name should not be carried into the shooting-field, but in breaking is very important. Dogs are very sly, and ready to make any excuse to themselves for not obeying their orders; but if their names are actually used, they dare not disobey—at all events they feel sure of the consequences if they do. On hearing this order, and knowing that it means them to stop, they do so; but knowing also that game is afoot, by the attitude of the other dog, they become, to a certain extent, stiffened into a semi-cataleptic condition, which is called "backing;" any dog may be made to "back," whether he has a nose or not; but none can be rendered semi-cataleptic except the true breed. It is the same in "pointing;" here, as I before remarked, any dog with a good nose may be taught to point his game, if stopping, and abstaining from flushing it, can be so called; but the only "point" and "back" which can be depended upon, is the one in which this cataleptic, or semi-cataleptic, condition of the nervous system is developed. It is exactly similar to the effect in the human being, produced by the mesmerist. He can raise the arm of his subject, and, by a few passes, render it as stiff and rigid as the pointer's tail; and this is only the result of the counteracting powers of excitement and repression exerted at the same time. Just so the pointer is excited

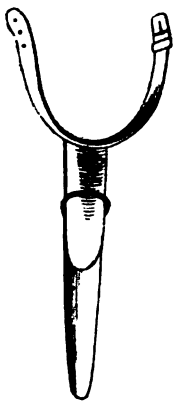
and repressed at the same moment, until, being of a highly nervous temperament, he is reduced to the rigid condition which is desired. Wherever the second dog is, however far from the pointing dog, he should at once stop and "back," and the breaker's whole care should be bestowed upon him. The other, as I before remarked, being steady, will demand no attention; but the young dog should be anxiously watched, and stopped the moment he catches sight of the "point." When he has stopped, and is steadily "backing," walk up to him, and praise him, saying, "Good dog—toho! Good dog—toho." Then, if the birds rise, make him drop, by "Down! good dog," in an encouraging yet firm voice. Walk a little way towards the other dog, still keeping both down; and if the young dog offers to stir, rate him severely; after a minute or two, "Hie on" both. Be very particular that your auxiliary dog does not run jealous, and that he "backs" steadily, in case the young dog finds. This is very important, for many old dogs refuse to "back" a young one, till they have once or twice satisfied themselves that their "point" is correct. But such jealous and crafty dogs are not fit to help to break others to "back;" since their declining to "back" the young dog, encourages him to return the compliment, and they mutually increase each other's jealousy. If the birds lie very steadily to the old dog's "point," first encourage the young dog, then leave him, and walk up to the old one, and put up the birds, making both drop on their own ground. This lesson is rather difficult, as the "backing" dog naturally runs up to his master, and if he will not stop and drop to the hand, and "down," a cord and stake must be fastened to a spike-collar, which he must wear, and the stake be driven into the ground, before leaving him, or an assistant must go up and put up the birds; but I prefer doing everything without any looker-on, as the dog has then his attention wholly directed to your own movements. Some very high-couraged dogs are very difficult to make "back;" and, indeed, I have known many highly-bred ones in which the cataleptic condition was never fully developed. They were made to stop, but not to "back;" that is to say, they were not influenced by any condition but fear. I once had a very extraordinary young pointer, the fastest and best-nosed single-handed dog I ever saw, which took many months to teach this accomplishment. He was "steady before," when I bought him, at twelve months of age, at the end of the pairing-season. I had him with me all the summer, and got him under beautiful command on the road. He was a very small and delicate-looking dog, but the most untiring animal I ever had; no day was too hot or too long for him, and, with anything like a scent, he would beat any dog I ever saw. When I began, about the eighteenth of August, he was steady enough singly, but the moment I put him down with another dog, he would neither "point" nor "back," his whole attention being devoted to the taking the other dog's point. I thought I would tire him down, and I worked him for one whole week by myself or servant, for at least six or eight hours a day, going as fast as a foxhound in view, or nearly so. But at the end of that time he was as fresh as ever; and, though he had settled down to a steady point himself, he would never abstain from running up and taking his fellow's. Very fortunately, he staked himself in chasing a hare, by which he lost a good deal of blood, and lamed himself, and in this state I began the season; and on three legs, weakened from loss of blood, he was glad to obey my voice, and stopped, though he never "backed." By the end of the partridge-season he was steady enough in all points but "Down charge," as he *would* go to his bird if he saw it drop, and no punishment stopped him. This fault lasted even to his eighth year, though constantly shot over by a very good man, after I sold him. This dog, however, next pairing-time, was as bad as ever behind another dog, and never could be depended on, in this respect, till his third season. Even then his "back" was an apology for the real thing; and while his "point" was perfection in beauty and rigidity, the "back" was totally the reverse. He was crossed with the greyhound; which cross, I believe, is far superior to the foxhound, for the purpose of giving courage and speed; and though increasing the pointer's tendency to chase hares, is not here worse than the foxhound. I have known one very perfect specimen in the first cross, which was almost as fast as the greyhound which got her, and yet "pointed" and "backed" as steadily as I ever saw; but this bitch, when put to a thorough-bred, old-fashioned pointer, threw a lot of puppies which never could be thoroughly broken, and resembled the greyhound much more than the mother did. Such is the uncertainty of cross-breeding.

Sect. 7.—Mechanical Remedies for Faults.

These are, first, the puzzle-peg; and

secondly, the check-collar. The former is unduly neglected, in my opinion, by Col. Hutchinson, as it really is a very useful means of correcting a very troublesome fault. I confess that, on this point, I think the Colonel is wrong, as I do not believe that his mode of teaching the pointer to raise his head will answer in the field. Still, I am open to the conviction of experience; but I never found that any thing taught in the closet, as it were, is useful in the field, except when it is connected with the fear of punishment. However you may have inculcated the raising of the head at the word of command, which he uses, viz., "Up;" yet, when there is the temptation afforded by the foot-scent, the dog, if naturally inclined to hunt foot, will lower his nose, and dwell on the scent. It is the breed which is in fault, and nothing but compulsion will remedy it; besides, when a dog is a hundred yards off, how can the word "up" be heard? A whistle here is hardly to be conveyed to him; and yet it is under a hedge at this distance that the dog generally foots his bird, and dwells on it to the extent usually called "pottering." The puzzle-peg is merely a piece of wood, about a foot in length, pointed at one end, and flattened towards the other; an ordinary leather collar is nailed to the flat end, and about four inches from this a leather strap, or piece of cord, is nailed to the two sides, leaving just sufficient space for the dog's lower jaw to be inserted, with the strap lying between the canine teeth and the molars.

PUZZLE-PEG.



By the constant use of this puzzle-peg, which does not interfere with the dog's ranging, and only prevents his lapping water in shallow ponds or rivers, which will not allow him to bury the "puzzle-peg" in them, the dog loses, by habit, the tendency to stoop, and I have known a natural "potterer" become converted into a fine, handsome, and bold ranger; the chances, however, are much against this fortunate result, and I would never speculate upon it; it is the worst defect, next to refusing to range altogether, which is absolutely incurable. The CHECK-CORD is intended to apply to those dogs which range too wide, or refuse to "back," or to "point," even, when very troublesome to break. It is merely a line of various degrees of size and length, according to the strength and courage of the dog; it may be generally of the length of twenty yards, and of good stout cord, well twisted, yet not too heavy. The object is not always to tire the dog, but to gain absolute command over his motions, in bringing him back to you, or in stopping him from chasing. Of course, the longer and heavier the cord, the more it tires the dog: but some animals are so delicate, that they refuse to range with it, and yet are difficult to stop; altogether, however, it is an exceedingly useful mode of bringing dogs under command; but it is not so necessary for the pointer as for the spaniel, or even the setter, which is a bolder, hardier, and more headstrong dog than the pointer.

SECT. 8.—RETRIEVING.

I have not said one word of this part of the education of the pointer, because I am strongly of opinion that the true sportsman should always have a separate dog for this purpose. Whether in partridge or grouse-shooting, the same kind of nose, and style of hunting, will rarely serve the purpose of finding live and dead or wounded birds. For partridge and grouse-shooting, I am quite sure that far more game will be killed, if the pointers are never suffered to touch a feather, than if used as retrievers as well as in their ordinary capacities. The best dog for this purpose is, I think, a little rough terrier, expressly broken to retrieve, and kept for this alone. He has a wonderful nose, is perfectly under command, much more so than the spaniel, and will retrieve any game, from the snipe to the pheasant. Such dogs I have seen do wonders, and follow the shooters all day, "backing" the pointers in the most steady manner, and *making no fuss* when called upon to retrieve, so that they will often fetch a wounded

bird, if permitted, from the middle of a scattered covey, without flushing one; whereas, the pointer must either be taken from his point, or the other birds must be put up and shot at before the wounded bird is retrieved. They should be taught to be completely under command, and the pointers should be made to be perfectly free from jealousy, which they soon become *when the retriever is small*, but refuse with an ordinary-sized one. I shall give the mode of education of these little useful dogs here, since it will complete the lessons necessary for open-shooting. Of course, the same instruction will apply to the pointer, when he is required to retrieve; but I am quite confident that the extra keep of this little retriever will be well bestowed, and he will be doubly useful in covert-shooting. All retrievers should be taught early; begin at two or three months old, by teaching them to lay hold of any soft substance, and drag it from you; this developes the instinct which they have, of appropriating to their master's use whatever he wishes: the stick, the glove, or the ball, have no allurement for the puppy naturally; but you must give him the zest for it, by playing with him. All young dogs have an irritable mouth while teething, and at this time they like to have any soft substance drawn from their teeth. By taking advantage of this period, they may be made to appropriate to themselves the glove or the stick held to them; then, when they become fond of it, throw it a yard or two, and, if likely to become retrievers, they soon run to it, lay hold of it, and bring it to you, for the purpose of having a second and third edition of the same kind of play.

After giving them only a few of these lessons daily, and not nauseating them, they are, as they grow older, accustomed to fetch anything which is thrown, and often may be made to pick up whatever they are told to lift, by the words, "Fetch it," pointing to the particular article. In throwing the glove for them to fetch, occasionally throw it into high grass, or in the garden, into carrots or potatoes, then cry, "Seek, seek," and encourage the dog to look for it, by appearing to look for it yourself. After six months of age, the puppy may be taught to find and bring young rabbits, purposely concealed in grass, &c.; but should never be allowed to hunt rats, since they, by their bite, raise the dog's ire, and cause him to retaliate, and consequently to become hard-mouthed with his game. When the retriever has learnt to find and bring young rabbits without injury, and is under very good command, he may safely be taken out with pointers, but at first should be led by a servant, and only suffered to go loose when a bird is killed. He will then at once proceed to find it, and bring it to you; during all which time the pointers must be still "down," let the search be ever so long and distant. After a short time, when the retriever has been thoroughly accustomed to the work he has to do, he may be allowed to go at large, keeping him always at the heel of the shooter, and only suffering him to retrieve at the words, "Seek, seek," if the birds are wounded, or, "Fetch it," if dead. The retriever should always be made to bring the game to the actual foot, or even the hand, of the shooter, and not lay it down at a distance, as he may choose sometimes to leave it on the wrong side of a fence or river. In teaching these dogs to take water, it is only necessary to begin in the summer, and to avoid throwing them in. They will always, at that season, readily enter the water, and fetch anything floating out of it. Nothing is so easy as to teach a retriever to do his work, but the difficulty is to keep him at heel till ordered off; but by firmness, and a little system of rewards and punishments, this may always be effected. I shall go more at length into the system of teaching retrievers under the head of Water-fowl Retrievers, but the lessons I have here described are quite sufficient for land-retrieving; some further mention, however, will be made of this retriever, under the heads of Grouse and Partridge Shooting, where the actual working of the pointer, setter, and retriever will be more fully gone into. Hitherto, I have described the preparation only of the gun and the dog for this sport; in the next chapter, I shall treat of the sport itself.

SCATTERED GROUSE—GROUSE SHOOTING. A BRACE OF SETTERS, STEADY AT POINT, AND DOWN—CHARGE P. 57.

CHAPTER IV.

GROUSE-SHOOTING.

Sect. 1.—Varieties and Habits of Grouse.

Varieties of Grouse.—In the consideration of this fascinating sport, I shall first treat of the varieties and habits of grouse; next, of the dress and general accoutrements of the shooter; then of the varieties, selection, and management of the dog for finding them; and lastly, of the address required in the sportsman.

The sub-family usually called grouse, or, in the language of the naturalist, *Tetraonidæ*, is composed, as far as the British Isles are concerned, of four species,—1st, the *Tetrao Urogallus*, Capercaillie, or Cock of the Wood; 2nd, *Tetrao Tetrix*, Black-Game; 3rd, *Lagopus Scoticus*, or Red Grouse; and 4th, *Lagopus Albus*, the Ptarmigan.

All these are now to be found in Great Britain, except the Capercaillie, which has become so rare as to be only seen where it can scarcely be called wild; for though the attempt was made, in 1837, by Mr. Buxton, to reintroduce this splendid bird on the estate of the Marquis of Breadalbane, yet it has signally failed; and I am afraid the capercaillie must be now considered as one of the extinct varieties of animals formerly found in Great Britain, though almost every year eggs are imported into different parts of the North, and hatched under the grey-hen. They can scarcely, therefore, be included with propriety in our present subject. It was once common in Ireland and Scotland, and is now often imported into Leadenhall market, from Sweden, in the dead state, and during the cold weather. The male is nearly as large as the turkey, but the female is much less than the hen of that bird. The "play" of the capercaillie is very remarkable; it is confined to the males, who indulge in it in order to astonish and excite the hens, just as the turkey-cock does in our farm-yards, but more resembling that bird when his ire is aroused by a scarlet cloak. The nest is made on the ground, and the number of eggs is about 8 to 12.

The Black-Cock and Grey-Hen are spread over England, Ireland, and Scotland, being, however, confined to wild and secluded forests. In England, it is found in the New Forest, and on the Quantock Hills, in Somersetshire, as well as in some parts of Dartmoor. Besides these localities, it is thinly scattered in Surrey, Staffordshire, and Dorsetshire, with some few birds on the northern moors of Yorkshire, Cumberland and Northumberland. The male bird is very handsome, and weighs often nearly four pounds. The whole body is black, with a beautiful glossy blue over the neck and back; the wing-coverts are brownish, with the greater coverts white, forming a white spot on the shoulder, when the wing is closed; the tail is black, and much forked; the legs and thighs are covered with mottled feathers; toes are toothed; the eye has a red spot above, and a white one below it. The grey-hen is only half the weight of the cock; she is barred with dusky red and black above, and dusky red and white below; the tail is slightly forked; the nest is made on the ground, with an average of eight eggs, which are of a yellowish-white ground, marked with blotches of reddish specks. The young birds keep together till the spring, when a battle takes place among the cocks, for that supremacy in war which leads to the same degree of success in love. This arises from their polygamous habit by which the hens are seized upon by one cock, the boldest in the hatch, whilst the remainder, being defeated in the battle, remain in a state of compulsory celibacy. At the beginning of the season, black-game are very tame, and easily shot. They may then generally be found in rushy places, where they feed upon the rush seeds, and lie very close in this cover. On the moors, they feed also on cranberries and wortleberries, as well as on other seeds; in default of these, and when driven by hunger to the enclosures, picking up wheat, oats, or barley. As the season advances they are compelled to have recourse to this farmer's food; but they then become very wild, and difficult to get near; it is only by "stalking" them, or lying in wait for them when they come to feed, that many shots can be obtained. In Scotland, as the harvest is often late, they attack the corn in the sheaves, and, by hiding in one of the "stooks," or bundles of sheaves, you may generally depend upon getting a shot; but this is tiresome work, and not worthy to be called grouse-shooting. In winter, they feed upon the tops of the juniper, birch, and

alder, and may generally be found in the woods which are composed of these trees: they then afford much less sport than in the autumn, and your success will depend much upon the nature of the ground where they are found. If near high mountains, they are sure to leave the woods or moors the moment you approach, and it is then impossible to get at them, except by very careful "stalking." If, however, they are found in a tolerably level country, with a series of small coverts, there is a reasonable chance of getting a good day's sport. In the early part of the season, when on the open moors, they will be found either in the rushy places above alluded to, or in the brushwood, near the oat-fields, and they lie so close, that, with a steady dog, you may put up each bird singly. Great care and quiet must be observed in hunting your dogs, and your gun must be a good hard-shooting one, as the black-cock takes off a very heavy charge. No. 3 is the best size for this bird, except in the early part of the season, when No. 6 may suffice.

THE RED-GROUSE, or Grouse, as they are generally called *par excellence*, is the shooter's delight, and affords more sport than all the other birds of Great Britain put together. It is exclusively a British bird, never being found elsewhere. In weight, it is not much over 1 lb., though sometimes coming up to 1½ lb. Its peculiar mottled brown colour is so well known as to require no description. Red-grouse pair like the partridge, and lay about ten or twelve eggs on the ground. Both of the old birds contribute to the cares of their young family, but after the young are able to shift for themselves, the cock does not keep so much with them as the hen. Grouse are found only on the moors, never being met with far from the heather, which composes the principal part of their daily food. They also form a strong attachment to the particular spot in which they were hatched, especially if slightly undulating, as it generally is. On the level plains, at the foot of the hills, they will seldom long remain, even though hatched there, but make for the upper grounds as soon as disturbed; but if found on the side of a hill, they will often drop just over the brow, or fly around its base alighting out of view of the shooter. In the middle of the day, grouse lie very close under the side of a large rock, or some other secluded spot; but in the winter season, the hours which divide their two feeding times are very few. In sultry weather they lie very close, and not having stirred perhaps for hours, the dogs will pass over them, or within a yard or two, without winding them. In long rains they collect under the side of a ravine, or beneath a rock or strong heather, and at this time good sport can scarcely be expected. It is then utterly useless to attempt to get near them, as they rise on the wing far out of shot. In boisterous winds, also, they are always wild, even in the first part of the season. It is at these times that all the artifices of the sportsman are required, and he should take advantage of every inequality of the ground, walking up the beds of rivulets, at the bottom of ravines, &c., and avoiding bright colours in his dress. Grouse vary very much in colour and size in different localities. In Argyleshire, they are larger and brighter in colour than elsewhere, except in the western part of the Highlands, where they are still redder and larger. In Perthshire, on the contrary, they are very small and dark. This arises from the fact, that on the west coast there is so much wet as to addle the eggs and reduce the numbers, and, consequently, to allow those that remain to grow to a good size. This will generally be the result of a bad hatching season, because, wherever food is scarce from over-stocking, the animals feeding on it will diminish in size; and the reverse takes place in diminished numbers; but this is not the cause of the alteration of colour, which is rather to be attributed to the change which occurs in the covert or heath frequented by them. It is a wonderful provision of nature, that all ground-birds, as well as other animals, soon assimilate in colour to the soil which they frequent. The ptarmigan and ermine, in winter, become white as the snow itself, as do the white hare, and numerous other animals. The grouse, consequently, when bred in heath of a bright colour, partake of the same rich bright red; whereas, when they are found on bare moors or on stubbles, as in Yorkshire and the Lowlands of Scotland, they are of a much lighter brown, scarcely richer than the skylark in colour. Towards the end of winter, grouse feed more freely in the evening than in the morning, since the interval which they will have to pass without food is much longer, in consequence of the increased length of night. At this time, the afternoon shooting is by far the best, as grouse, unlike partridges, are best approached when on the feed. Grouse feed almost entirely on the tops of the heather, rarely taking any other food, except a few grass-seeds. They do not lie so close together at night as the partridge, but collect within a short distance of one another—not

in one solid mass like that bird. These peculiarities should be known and appreciated by the grouse-shooter, as upon his knowledge of them depends his success in finding and bringing them to bag.

PTARMIGAN are chiefly found in the most inaccessible mountains, such as Ben Lomond, and the other Bens. They afford no sport, being tame and dull of wing; they are, therefore, seldom sought after by the sportsman, unless he fails in procuring good sport with wilder and more wary birds. Like the red-grouse in their habits of breeding and pairing, and in packing also, they differ in being dull and stupid. Their legs and feet are feathered down to the claws, and in size they come very nearly up to the red variety. In summer, the colour of these birds is of a mottled-grey, not nearly so red as the red-grouse, but barred and marked in the same way; in winter this becomes of a pure white, with an occasional spot of grey remaining; but the more northerly the *habitat*, the whiter the plumage. The nest is exactly like that of the red-grouse; and in general air and manner, when undisturbed, this bird resembles its more prized congener. There is one remarkable point of difference between these birds, which again contrasts in a singular way with their varied habits—this is, that, though the ptarmigan is a heavy and dull bird, as compared with the red-grouse, yet it can never be tamed, while the red-grouse is exceedingly easily domesticated. The ptarmigan feeds on rock-plants and berries. Its plumage changes in October, and the feathers not only become white, but thicker than before; by which provision of nature it is rendered capable of resisting the most severe colds. Indeed, Scotland does not seem sufficiently north for this bird, which prefers the inhospitable shores of Sweden and Norway. There it abounds, and is trapped or shot for the natives, as well as for the London market. The flavour of a good fleshy bird is very agreeable, though strongly impregnated with the plants upon which it feeds.

SECT. 2.—DRESS AND GENERAL ACCOUTREMENTS.

DRESS.—For the purpose of grouse-shooting, with any prospect of a successful issue, the dress of the shooter is of great importance. None of the game birds in this country are so wary and so difficult to approach as the grouse; and an old cock-bird will often defy the efforts of half a dozen sportsmen for many successive weeks, finally escaping to be the father of a future generation of clever ones. The colour of the clothes therefore must be attended to: but the most essential point is their suitability for preserving the health of the sportsman. In almost all cases, grouse frequent bleak and exposed moors, which are always cool, even in August, during windy and wet weather. Mists and storms are constantly to be guarded against, and for these various reasons, the material of the shooter's dress, throughout, should be of woollen; the more hardy may perhaps venture to put on a linen jacket in the very bright and sunshiny days which often usher in the shooting season; but those who are subject to rheumatism, or colds, or, in fact, all those who are not very hardy and healthful, should carefully adopt the precaution of adhering to wool. It may be woven into thin fabrics; but, however light, it is still a very different material, in its capacity of resisting wet and cold, from linen or cotton. Flannel, also, should be worn next the skin, as a precaution against the chill so often felt when, on reaching the mountain-top, the skin, reeking with the perspiration poured out in its ascent, is suddenly submitted to the searching powers of the wind prevailing there. I should therefore strongly advise flannel waistcoats and drawers, however fine they may be, and, above all, worsted stockings; these last are not only necessary, for the purpose of avoiding a chill to the feet, but they also are by far the best for walking purposes. Cotton and thread, or even silk, are too hard for the skin, and will blister most feet in a very disagreeable manner. If the skin is very irritable, so as to render the woollen unpleasant to the sensations, a pair of silk socks may be worn under them; but the soft pad of the woollen material is necessary, to enable the shooter to wear the strong heavy shoe which is required, without suffering from it. For the feet there is nothing like the laced boot, for those who are accustomed to have their ankles confined; the sole should be studded with nails; the heel, also, ought to be low, and resemble the ordinary walking shoe. All shooting-boots should be waterproof, as the dews or rains often compel the sportsman to submit his feet to a worse ordeal than a pail of water. In ordering shooting-boots, it is never desirable to procure them from a maker accustomed to consult appearances chiefly; on the contrary, a respectable cobbler is often the best man; but the leather is of more importance than any other point, and should be strong *cow*-calf. It is a remarkable fact, that the skin of the female calf is much more

soft and yielding, and yet more durable and waterproof, than that of the male. The *cow*-calf-skin can only be recognised, when entire, by the remnant of the teat, which is always left in skinning, and which a good maker will select with care, for his sporting customers. Durability is not here a mere matter of £ s. d., for no money can supply the place of a pair of shoes to which the feet are accustomed. Every one knows the misery of walking in a new pair of boots, even when the distance is not great; but when many hours a day must be devoted to a pursuit like grouse-shooting, it is all-important to provide against the discomfort attending upon a sore heel or a blistered toe; let the shooter therefore some months before the season, provide himself with what will fit him, and let him wear them a little every day, till they have taken the form of the feet; then let him put them carefully away, after having them dressed with a composition made of—boiled linseed oil, one pint; bees'-wax and resin, of each, four ounces, melted together, and stirred till cold. It will ensure their future fit, if the boots are wetted by walking into water, before they are dressed; and in hot summer weather they may be suffered to dry on the feet, taking care to keep moving during that time, and to dry them thoroughly before dressing them. All sporting boots should have large-headed nails in the sole and heel, as, both in greasy fallows and on bare rocks, the foot, without them, slips about in a disagreeable and even dangerous manner. If the feet are very tender, and liable to excoriate, the best way is to soak them at night in strong hot alum and water, and in the morning to rub a little neats'-foot oil over them, before putting on the stocking. I have already said that the dress should be woollen; and any of the plain Scotch tweeds will answer the purpose, using the same material for trousers, waistcoat, and shooting-coat. The heather-pattern is strongly recommended, from its resemblance to the general covert of the birds; but I believe that any plain and sombre colour will do, if neither too dark nor too light. Black and white alike strike the eye, by their contrast with the surrounding objects; but black and white *check* is as good a colour as any. The coat should have a strong patch of leather on each shoulder, for the gun to rest upon, and should be provided with an outside pocket on the left side, for the shot-pouch, and a similar one on the right side, for the powder-flask and wadding; a small pocket on each side, above these, will contain the cap-holder on the right side, and the nipple-wrench on the left. You will not require any game-pocket, because, at the grouse-season, no game will bear the heat of the body without becoming speedily tainted.

THE GUN should be of the breech-loading kind already described as suitable to every variety of open-shooting, but should be a hard hitter, and the shot used No. 6. It is far better than the muzzle-loader, especially early in the season, as will be evident to those who have experienced the annoyance of waiting to load, while a scattered pack of grouse, or covey of birds, are rising one after another, too fast to allow of more than two or three shots at them, and yet all within range. The other ACCESSORIES are for your own person—merely the loaded cartridge cases with the extractor, or, if a muzzle-loader is used, the powder-flask, shot-pouch, cap-holder, wadding, dog-whistle, nipple-wrench, with spare nipples in it, knife, and dog-whip; and for your "gillie," as he is called in the North, a game-bag, dog-couples, spare powder and shot, caps, and wadding, Eley's cartridges, gun-cover, and Mackintosh coat.

SECT. 3.—VARIETIES, SELECTION, AND MANAGEMENT OF THE DOG.

POINTER *v.* SETTER.—Having now described the habits of the game to be found, and having already prepared the dogs for the task which they have to perform; having also prescribed the best gun, and the most appropriate dress, I shall proceed to the investigation of the best mode of combining all these several elements, until they assume the form in which the cook or the Flemish school of painters especially delight—viz., Dead Game. I have already given instructions in the general management of the gun; and it is to be supposed that its possessor, before he ventures upon the moors for the first time in his life, has made himself as perfect as he can, by assassinating all the cock-sparrows and larks which he can come near. If the moor has been judiciously chosen and well-preserved, it is fair to conclude that there are plenty of grouse upon it; and the only thing necessary is to find them, by means of the nose, sagacity, and steadiness of your dogs. But now comes the question which has been so often discussed—are pointers or setters best for this purpose? The arguments on both sides would fill up many a page, if carried on in the loose rambling way which sportsmen so often indulge in; but it will be much simplified by ascertaining what we are going to compare. A man goes to the moors, and

takes a lot of heavy lumbering pointers, yet with good noses, and he complains that they find him no game, and knock up in a couple of hours—and it is perfectly true that they do. The old Spanish pointer, or any dog with much of his blood in his veins, has not courage sufficient to carry him over the wide extent of ground which must be beaten, in order to find these birds in any numbers. In partridge-shooting, the experienced eye will always, at each period of the day, inform the sportsman where he ought to look for his birds, and therefore, although his beat may include two thousand acres, yet at no one time does he wish to go over more than two or three hundred. The reason of this is, that at certain hours partridges are on their feed; at others, they are in the turnips, or the grass, or under the hedges; in dry days they are on the fallows, and in wet they are not in turnips, and so on. But the grouse-shooter cannot thus make his selection, but must go steadily on, and his whole lot of grouse are spread, perhaps, pretty regularly over the full extent of his moor, as far as he knows, at all events. A good-ranging dog, then, is a *sine qud non*; and a steady old pointer is, by himself, a useless animal. The consequence of all this is that, since pointers include many heavy brutes in their ranks, the whole tribe must bear the blame. Again, another man proceeds to his allotted ground with a team of setters, rivalling the whole world in beauty and apparent power of doing what is required; but they are as wild as hawks, and though occasionally setting and backing, they flush ten times more game than they find. These also, being setters, contribute to damage the reputation of their breed, and their owner gets rid of them, in the belief that "the pointer, after all, is the dog for the moors." But, yet, there can be no doubt that the pointer may be obtained capable of sustaining as much work, and of ranging as widely and as fast, as the setter. On the other hand, there can, also, be no doubt that the setter can be met with fast, and yet steady, and with a nose equal to any emergency. Now, let us consider what is the essential to good sport, without which no great amount of game can be bagged. The answer will be, steadiness and nose. Which breed is the most generally steady, and which has the best nose? I should unhesitatingly reply, the pointer. I have known some steady setters, and some with most excellent noses; but for one steady setter, I have known twenty steady pointers. Then if this, which is the *essential* point, is more readily gained in the pointer than the setter, I should certainly select him, if it is possible to meet with him of sufficient range and courage. Here, I think, is the real solution—is this possible? My answer is—certainly, it is possible, but not very easy. I have known a vast number of pointers, but I never saw half a dozen which could compare, in these points, with scores of setters which I have seen; but, at the same time, there ought to be no reason why they should not. Many suppose that the pointer's foot is too free from hair, to stand the battering and friction of the ground; and that his skin is too delicate for the rough work he has to do. This, however, is all a myth. The hair of the foot is no protection to the pad; and the coat of the pointer is as rough as that of the fox-hound, which has to encounter, and which is quite regardless of, the briars and thorns of the strong coverts in which he has to find his game. Depend upon it, the pointer's foot ought to stand his work as well as the setter's, and will do so, if properly managed. But there is one cogent reason why it does not, and why the pointer is so often knocked up. Every one knows that setters are more difficult to break, and more uncertain, than pointers, and consequently, before the 12th of August, the keeper or servant is instructed to give them plenty of work, to make them *steady*. But in doing this, he hardens the foot, and improves the wind, and, by a natural consequence, he enables them to go through their work in a handsome manner, without betraying fatigue. The poor pointer, on the contrary, suffers from his well-known stanchness, and is allowed to remain in his kennel till he is placed on the train, for the purpose of reaching the scene of his future labours; and truly laborious they are to the fat, unexercised, and thick-winded animal; and this not only affects the individual, but his descendants. Wherever hares are coursed they run well, because those bred there must be the sons and daughters of hares stout and fast enough to save their lives on former seasons; so it is with all animals, if bred from bad-winded or soft sires and dams, they will exhibit the same peculiarities. But get a good, healthy pointer bitch, keep her in health and condition by constant exercise; put her to a similarly-treated dog, and treat the offspring in the same way, and you will have no reason to complain of their want of range or stoutness, unless the breed itself was radically bad. If I wished to increase the ranging powers and courage of a breed of pointers,

I should certainly select a good greyhound as the most likely to improve these faculties; and having seen it answer on two occasions in particular, I can confidently recommend its adoption. No dogs amalgamate better; but in choosing the greyhound, care should be taken to select one of a stout and courageous breed. Some greyhounds are as defective in these respects as the old Spanish pointer; but a good stout breed, with a dash of the bulldog, is that which will suit the best for our purpose. The cross hunt with their heads very high, and are very handsome in the field, being almost too fast for the average of days. It is a great mistake to suppose that the greyhound has a bad nose—the contrary is the case, and has been so remarked by that keen observer, "Scrutator," who offered, some time ago, to kill a fox, in the usual way, with a pack of true-bred greyhounds. The difficulty is, to prevent them from using their noses; as, if care is not taken, they will get into a covert, and hunt till they are fairly tired out. I have had many which would run for miles to a covert, the moment they caught sight of the trees, and that with all the constant supervision which I could give them; and once coming across a scent, they ever after dwell upon one, and would hunt it, if permitted. By this cross, the tendency to stoop and "hunt foot," so common in the foxhound cross, is not developed, and you get an increased degree of speed and stoutness, without loss of nose or tendency to stoop. Thus far I have written on the improvement of the pointer, and on his suitability to go through the work on the moors; but having asked, is it possible to obtain the requisites for grouse-shooting in the pointer, I must now make the same inquiry as to the setter. My answer would be, that you may breed some few setters better than any pointers for the moors, but that to obtain two good ones, you must breed at least twenty; and you cannot tell, until twelve months old, whether they are likely to be good or not. In the pointer, if you have a good form in the puppy, with good back and legs, and a power of holding himself together in the gallop, you may generally prognosticate that he will be steady, and of good nose; but not so with the setter—he is never to be fully fathomed till well and thoroughly broken, and is seldom to be depended upon till his third season. Many setters have I seen apparently well broken, and steady "before and behind," yet a week's or month's rest has rendered them so wild, that it will be some hours, and take some whip-cord, to restore them to a wholesome degree of discipline. They have the advantage of bearing that discipline better than the pointer; and if a shooter is in the habit of venting his ill humour, when he fails in his shot, upon his dog, the setter is the breed which he should select. They are hardy and good-humoured in the highest degree, and will work after punishment even more readily before.

VARIETIES OF POINTERS AND SETTERS.—The selection of dogs, then, is to be made from the following: first, the old Spanish pointer; second, the modern pointer; third, the setter; fourth, the Russian setter. I have said that the old Spanish is too slow, lumbering, and pottering for grouse, and that the modern dog may be procured of good lasting and ranging powers, yet with good nose. The setter, I have also remarked, may be obtained sometimes with all the desirable points in perfection, but I have said nothing of the Russian setter. This variety is much more woolly in its coat than the English or Irish, and the quality of the hair is very like that of the Skye terrier. He has, generally, a very good nose, is very hardy, but bears heat badly, and constantly wants water. I have, however, known some exceedingly good dogs of this breed. They are very apt to get disease of the skin, and if they do they are very difficult to cure, on account of the matting of their hair. Altogether, therefore, I prefer a well-bred pointer; but I should select one strong and bony in frame, with good loins, and with feet round and *hard*. This last point is very essential; no matter what the shape, if the horny matter on the pad is thin, they will soon wear sore; the toes, also, should not spread apart, or the skin between will become sore, whether hairy or not. The head should be broad, with well-developed nose, and the secretions of that part should make the end moist and soft. But, it may be said, if the pointer and setter each possesses what the other wants, why not combine the two in one perfect cross? This theory has, however, been carried out with a want of success which too often attends upon that tempting bait—theoretical reasoning. Man's theory is, indeed, so often upset by actual results, that it seems as if his pride must require humbling; and possibly this may be the cause of its frequency. At all events, it is strange that the result of this cross should be exactly the reverse of what was expected. No dog

is, generally, so bad as the cross between these two, and they do not even improve one another in any respect, but fall off in all. Why this should be so I know not, but so it is; and I would strongly caution every sportsman against trying this experiment, which has invariably failed, except in some few instances in the first cross, when they take after sire or dam, and do not resemble both.

THE NUMBER OF DOGS REQUIRED for the moors, for each party of shooters, is not less than three brace. If one, two, or three guns work together, they will of course not require more than one gun. Few dogs will work more than six hours, but a good one should be able to do that; the average, however, will not come up to that mark; and therefore, hunting twelve hours a day, you will require the assistance of a third brace. No good will be done with more than a brace at a time, if good rangers; but if you have a pottering dog, which will not go far from you, he may as well be at large, and allowed to do what little he can; in my eye, however, he spoils the beauty of the work, as I cannot bear to see one dog faster than another. The perfection of grouse-shooting, to me, lies in the quartering, and exact working, of the dogs; yet if you have a steady old dog in the middle, and working between your two fast and wide rangers, they will not cross one another, but will and ought to refuse to encroach upon his beat, and turn upon their own ground when they come up to his. Most grouse-shooters calculate upon a kennel of at least six brace of dogs, which is about the average team. This number will not be too many if they are of the usual run of pointers; but if more carefully selected or bred, or if of a good breed of setters, the number I have named will be more likely to answer your purpose; still it is better to have too many than too few: a cut foot, or any attack of disease, may deprive you of the services of one or two, and you may be left with perhaps one good one, or not even that. If, therefore, you have the means, and cannot fully depend from experience upon all your team, take at least an extra brace, or even two. It must not be forgotten, that some dogs which have appeared very good indeed, when tried without the gun, and worked by their breaker, will not turn out quite as well as you expected from their performances, and the characters given by their sellers. Some are not steady enough, others are too steady, &c. An amusing instance is told by Mr. Colquhoun, in his valuable contribution to our knowledge of Highland sports. "A gentleman, walking out with a high-broke pointer, suddenly missed him, when he presently espied him soberly and submissively following the heels of an old guinea-fowl, whose reiterated cry of 'Come back! come back!' he had thought it his duty to obey." If I had seen a dog following a guinea-fowl, I should certainly rather have suspected him of being fowl-mouthed, than of being too highly broke; but, as a story, it tells remarkably well.

SECT. 4.—BREAKING TO THE GUN.

It will be borne in mind that the education of the pointer, or setter, has only been carried up to the point at which it was compelled to stop, for want of the gun; and that there are some few essentials in regard to which it requires finish. The "Down-charge" is dependent upon the rising of the birds, and can better be taught at pairing-time than now; but, however well inculcated, it is too apt to be forgotten, and to be lost sight of, in the anxiety to bag the game. It will be remembered, that I have strongly recommended that the pointer or setter should not be used as a retriever, but that another dog should be specially set apart for that purpose. If this is not the case, the chances are ten to one that the young dog is allowed to go to his bird, if a runner, without waiting for his master's order; and if this is done once or twice, the habit soon increases, till at length both dogs rush in and tear their bird, in their anxiety to retrieve it. I should always advise that the "gillie" has charge of the dogs at this critical moment, and that *he, as quietly as possible*, but somehow or other, keeps them steadily down; this is all he has to do at that moment, though he may well do that, and mark at the same time. He may also lead the retriever, till he is steady enough to walk at your heel; but his grand use is to keep the dogs down when the birds rise, and this he should do under all circumstances. Dogs do not require to mouth their game as an encouragement; they are quite satisfied if they see it fall, and will continue the work as long as their strength will allow, without touching a feather. By adhering strictly to this plan, all danger of their acquiring this inexcusable fault is done away. The ranging and quartering, of course, have been acquired in the mode I have advised; and they have been accustomed to the sound of a gun. If any one of them is wanting in self-confidence, be particularly careful in following him up, pay

great attention to his point, and take great care to shoot his bird, if possible, or, at all events, to shoot at it. In this way, he finds that you estimate him higher than he thought, and he learns to depend upon his own powers, instead of following another dog, and always looking out for "points." In grouse-shooting, there is not the annoyance of the constant hedges, which are so detrimental to the pointer in the pursuit of the partridge; but there is a much greater chance of the dog pottering over a foot-scent, because the grouse runs so much more than the partridge, and being feathered down the leg, his foot-scent is so much more strong. It is here that a good setter shows his superiority, as he generally makes out a foot-scent better than a pointer; though I am bound to say, that I have seen one or two pointers that would make out anything. The very highly-bred pointer often has no notion of this; he points as stiff as a Chinese idol the moment he comes upon scent of any kind, and nothing will move him as long as that scent continues. Such dogs are useless on the moors, when you not only want to know that there is game somewhere, but also where it is. The essential feature of a good dog is, that he shall stop the moment he feels the scent, and satisfy himself that game is before him. As soon as he is quite sure of this, he should wait till you are within distance; on being assured of which, he should draw upon his birds, if they are running, taking care to stand quite steady, if he hears the faintest "Toho" from his master. This is sometimes necessary, if the grouse are strong runners, as the shooter must often head them before they will rise, though, for my own part, I should much prefer walking rapidly up to them, and putting them up, as they will seldom, till they are become very wild, get far enough before you to rise out of shot. Some dogs learn to leave their first point, and go round and circumvent their game; but this is only a rare accomplishment, and is scarcely to be desired; it is much better to send your man well on before them, ordering him to drop to the ground the moment they rise. Thus much for the management of the dogs. We will now consider how the intellect of the man may assist the instinct, and superior olfactory power, of the lower animal.

Sect. 5.—Management of the Beat.

In this particular, the address of man is conspicuous. It is often said that a good dog knows where to find his game without looking for it; but I have invariably found that, though occasionally successful, such dogs are the worst animals for a whole day, and leave more game behind than they find; the same may be said of many sportsmen, who pick their ground in grouse-shooting. In partridge-shooting, as well as in coursing, much game is left behind by the man who is constantly saying, "Oh! we shall do no good here." The best plan, in the long run, is to get good-ranging dogs, with good noses, and beat all before you, taking care to have the wind in your face, unless it is very high, and you are on the edge of your ground, as then your birds will be sure to fly down-wind in spite of your teeth, and you will lose them, as they seldom return the same day. If there is a high south wind, begin at the south-east or south-west corner, and work up the south side, by which means your dogs will have a side-wind, and your birds will fly into the centre of your beat. If, on the contrary, the wind is from the north, begin in like manner at the north-east or north-west corner, and work up the north side. Under all circumstances, when you come upon game, you should *follow up that pack till you have either killed all, or lost them.* In pursuing this course, I do not mean that you should take your dogs up while going to the pack first shot at; but, in doing what I advise, hunt the intervening ground, and if you meet with fresh game, you may bag it if you can, as a matter of course. If the second pack should be marked nearer than the first, follow that up in preference; but, as a rule, if both are equally comeatable, stick to your first love. The object of this is twofold: in the first place, you scatter your game, by perseveringly following them up, and thereby have a much better chance of getting single shots; and, in the second, you make your whole lot of birds less wild, because you kill off those which are shot at, and leave the undisturbed ones for a future day. It is not the report of the gun alone which frightens birds, but the finding them, and putting them up, and then firing at them, which has that effect. By shooting once a day at every pack, you would get, perhaps, on the average, one and a half birds out of each; say thirty brace a day for three or four days, and twenty brace, or even less, afterwards. This plan would require you to disturb and alarm forty packs, to enable you to bag one and a half out of each; but thirty brace may be obtained from five or six packs, if they are followed up, and exterminated, leaving thirty-four packs for the second day, twenty-eight for the third, and twenty-two for the fourth; all of which that are left would be as readily come at on

the fifth, sixth, and seventh days, as on the first. This is very important, in a sport which is generally pursued unintermittingly for a week or ten days at least; for most Englishmen, when they hire a moor, are limited in their time, and have nothing else to do to fill up the intermediate days. I need not here observe, that, after a time, the flight of the grouse is often to so great a distance, as to forbid the sportsman from following them; but I am, of course, supposing that the thing is practicable, as it generally is in the early part of the season. Many men advise that the shooter should begin by driving all the birds to one part of the moor, towards the centre, because, by this plan, they are kept away from the adjoining moors, where, of course, they may fall a prey to the guns belonging to it. But this is difficult of accomplishment; grouse will not be driven like sheep, and make their point, let it be where it may. In making the attempt, therefore, you are just as likely, or nearly so, to drive them off your beat, as farther on, and, by so doing, spoil your sport, instead of improving it; if, however, you leave thirty-two packs out of forty quiet, they are safe from your neighbours, even though they beat to within a hundred yards of the place where your undisturbed grouse are. The shooter should, of course, always begin on the edge of his moor, selecting the lee side, and then working his way towards the centre, and following up his birds in such a way, if possible, as to keep them on his own ground. This plan, however, will not answer if the wind is very high, as already mentioned—in which case he must begin on the windward side: he will thus do less harm, in point of making them wild, and get more shots, than in any other way. If they approach the boundary, they must either be left alone, or the shooter must drive them back, trusting to his dogs to get the wind in their work; this they will do readily, because, as they cross the wind, it is of very little consequence to them in the greater part of their range. In beating the side of a circular mound, such as you so constantly see on the moors in Yorkshire, you may almost always reckon upon the pack you shoot at keeping to the sides of that hill; they will fly round and round, dropping always on the other side to you, and, by following them up, you may break them, and frequently bag every one. When on the feed, grouse seldom rise all together, but generally leave one, two, or more behind; these should be diligently sought for, and brought to bag. There are many parts of even the best moors which are not "lucky for grouse," as the shepherds say; that is, the heather is not just of the kind they like as to growth. Their most certain finds are those parts which are patchy, with the heather leaving the turf peeping through here and there. It is not in the very thick, unbroken heather that they delight, but in those spots where they can sun themselves, or use their legs in running in the grass; but the best plan is to make yourself acquainted with their haunts, or to take some man with you who has that knowledge; though, after all, it is a lottery, the ground which they most frequent one year, being deserted by them the next. If the shepherds are made friendly by a proper *douceur*, without which it is useless to expect their co-operation, they will always enlighten you as to the best spots for grouse. Let not the grouse-shooter hope to do without these gentry; they have everything in their power, and can make or mar his sport as they please. On every account, therefore, keep the blind side of them; and even if they quarrel with your keepers, take care they do not quarrel with you. Fresh-burnt heather it is no use beating; though this is the only rule which can be laid down, as in every other situation they are occasionally found. If the season is very dry, the near proximity to water is sure to afford a good chance of finding game; and, on the contrary, if wet, the hill-side, or even the top, is the only likely place. In grouse-shooting, more is to be done by early work than in partridge-shooting; but even here, since nature has her limits, it is better to wait till eight o'clock. At this time of the year the evenings are quite light till eight o'clock, and twelve hours a-day are surely enough for the greatest glutton that ever shot. By "throwing off," therefore, at eight, and getting a good breakfast before starting, there will only be luncheon to provide on the moor; consequently, eleven hours at the least may be devoted to the sport, and the strength is reserved for the best part of the day, viz., the evening, when the birds are coming off the feed, gorged and lazy. The young and inexperienced hand should be on his guard against the "dodges" of the old birds, especially the cock; he will often endeavour to lead both dog and master away from the rest of the pack; but both, after a time, become initiated into his artful manœuvres, and leave him alone, unless the chance occurs of bagging him, which should be seized with avidity. Towards the end of September, the young birds have learnt to run as well as the old ones, and will

often be seen to run out of shot, and then get up perhaps three hundred yards a-head. If they are seen running, the "gillie" may generally get beyond them, and stop them. At this time, a long and heavy single gun is the only one likely to do execution, and No. 2 or 3 shot, or Eley's cartridges, may be used with advantage; indeed, after the first week, the second barrel of your ordinary gun should always be loaded with one of these useful inventions.

Sect. 6.—Grouse-Driving and Stalking.

When grouse become very wild, two modes are sometimes adopted of getting shots, which are pursued chiefly in the most hilly moors. The first consists in driving, by means of the gillies, the grouse over or within shot of certain spots where the shooters are concealed. In those moors where walls are met with, one of these places of concealment is selected, and the sportsmen kneel down behind, at intervals of sixty yards from one another, and in such likely situations as it is supposed the grouse will fly over, when disturbed on the opposite hill. The gillies then take some good-ranging dogs, and having found the packs, they get beyond them, and drive them up in such a manner as to ensure, as much as possible, their taking the direction of the concealed sportsmen. This is sometimes, towards the end of the season, the only mode of filling the bag, but it is a tedious kind of sport, and more benefiting the keepers than their masters; indeed, were I given my choice, I should far prefer the work allotted to the men, to that chosen by their masters. This will be considered want of taste on my part, I am afraid; but perhaps my destructiveness is not large; or perhaps, again it will be said, that my success in dog-breaking is greater than that to which I have arrived in shooting. The last is perhaps the true solution.

Stalking is practised by the shooter himself, by means of the telescope, and is a very laborious pursuit, compared with the outlay of time and labour, especially if these are increased by the weight of the game-bag. It is conducted on the same principles exactly as deer-stalking, though on a smaller scale; and the reader may consult the chapter on that kind of sport, for the details of the various plans and manœuvres which are then called into operation, and which will be equally successful in stalking grouse.

Sect. 7.—The Retriever.

Upon the point of using a separate retriever, or allowing one of your pointers to retrieve, there is a great difference of opinion among sportsmen. I have already given my own opinion, that the use of a separate one is the better plan by far; and I have given my reasons for this opinion, and also for selecting a small dog, in preference to a large one. In this opinion I am supported by that good sportsman, Mr. Colquhoun, though he does not restrict the sportsman as to size or breed. On the other hand, Colonel Hutchinson says, "We have all our prejudices—every Englishman has a right to many: one of mine is, to think a *regular* retriever positively not worth his keep for general shooting, *if one of your setting-dogs will retrieve well.* However, if you shoot much in cover, I admit that a regular retriever, which can be worked in perfect silence, never refusing to come in when he is merely signalled to, or if out of sight, softly whistled to, is very useful, particularly where you employ beaters; but even then he should not be the idle rascal that one generally sees; he should be broken in to hunt close to you, and give you the same service as a mute spaniel. I grant this is somewhat difficult to accomplish, but it can be effected; I have seen it, and, being practicable, it is at least worth trying; for if you succeed, you make one dog perform the work of two, and if he accompany you in your every-day shooting, you will thus obtain, in the course of a season, many a shot which your other dogs, especially in hot weather, would pass over. If too, the retriever hunts quite close to you, he can in no way annoy his companions, or interfere with them; for, I take it for granted, he will be so obedient as to come into heel the instant he gets your signal."—*p.* 266. This opinion, on the face of the passage, certainly would appear to be prejudiced; for I can scarcely understand how a dog, which he admits is very useful, can be "not worth his keep." I am fully aware that pointers and setters may be made to be steady to "Down charge," and yet retrieve; but I know from experience, that in nine cases out of ten, those which are unaccompanied by a retriever, are so unsteady, that I am convinced few men are fit to exercise this controlling power. If only once or twice in a day a bird is winged, and the setter is enjoined or even permitted to retrieve, before the gun is reloaded, there is an end to all "Down charge," and every time a bird is shot, it is retrieved almost before it touches the ground. If, however, the shooter *and his friends* can command themselves, when "the bag" is endangered, one of the setters or pointers may be entrusted with the

office; but in grouse-shooting, it must be remembered that three brace of dogs are required, and consequently you must have at least three out of the six broken to retrieve. It results from this that, in the first place, you must pay about 5*l.* a brace more for the retrieving-setters than you would for the same breed and quality of dog not broken to retrieve; occasioning altogether, besides the extra difficulty in the selection, an outlay of 15*l.* For this sum, two good retrievers may be purchased, whereas only one is required; and by constant use, he soon becomes three times as perfect as the setters, which would only perform a third of his work, for nothing requires so much practice as retrieving. Not only a good nose, but a good "knowledge-box" is necessary, and experience in addition. It is quite wonderful to see the "dodges" which a wounded grouse will resort to—running, perhaps, a quarter of a mile in the most twisting directions, and at last thrusting himself so deeply into a tussock of grass, or a clump of heather, as to defy the nose of anything but an experienced dog. However, it matters little, as to our present subject, what is the variety of dog to be used, or whether setter, pointer, or separate dog. The sportsman is generally recommended to select either a St. John's Newfoundland, or a cross with that dog and the setter, which is the usual land-retriever *par excellence*. The latter has a better nose than the former, and is more easily broken also; it makes a very good dog for the purpose, but is expensive to keep, and not so useful in threading the small runs of a hedge, or of heather, as the little terrier. The sort I have used is, I fancy, a cross of the regular Scotch terrier and the old English beagle, showing a good deal of the latter about the ears and tail. They are quite mute, and *very quiet in their movements*, and can readily be made to back the pointer. The nose is so good as to indicate the beagle descent, even if the head, ears, and tail did not proclaim it. They are about 8 or 10 lbs. in weight, and can barely lift a full-sized hare. I have seen these dogs do more than any other retriever, but they do not display the same readiness in carrying sticks, gloves, &c., as the ordinary land-retriever. This, however, is not wanted by the sportsman, and is only to be exhibited for the purpose of display. Whatever the dog, the education *with the gun* is very simple, and is only to be taught by giving them practice. When first taken out they should be led, but soon become quite steady at large, and will, as Colonel Hutchinson suggests, often find single birds near the shooter, which the wide-ranging dogs would pass over. In that case, they ought to wait a moment before putting them up; and though they never positively stand firm, they readily learn to wait till they see the sportsman ready to fire. They should always be under perfect command; and, as they are not very high-couraged dogs, they are readily kept so; whereas the pointer and setter, being required to range far, and for many hours, must be of such courage as to require ten times the strictness which would suit the mild temper of any retriever-proper. I have already indicated the mode of commencing the breaking of this auxiliary, and have only now to allude to some of the methods which must be adopted for remedying his faults. The command is seldom difficult to acquire, and they may then be suffered to run to their bird as soon as it falls; they will not be like the pointer, wild with excitement, and make fuss enough to put up twenty others, if there, but they go gently forwards, and seldom miss the object of their pursuit, from marking the spot with the eye. If used to this, they soon learn to distinguish a wounded or towering bird; and I have recovered a partridge which towered three large fields off, by the little fellow going straight on the line, guided only by his sight, and while I was following other birds. This, of course, was an extreme case; but in wounded pheasants, the distance they are marked in this way is often nearly as great. I am now alluding to pheasants wounded in the open, and yet able to get away with a half-broken wing. When the retriever is thus allowed to run in at first he gets near the bird, and on its line, and then is able to retain the direction very readily. Of course, there are circumstances where it is necessary to stop the dog, but the least sign suffices, or he is not properly broken. As retrievers do all their work by "roading" or "footing," they require that peculiar kind of nose, and not the high-winding nose which the pointer and setter display in such a marked and beautiful manner. Sometimes the retriever is "hard-mouthed;" but this is more often the case with the retrieving-setter than with the retriever-proper. The latter, however, is so sometimes, and many remedies have been suggested for this fault. One is, to give him a ball stuck full of needles to fetch; but I do not much believe in the plan. Another consists in fixing across his mouth a gag, called a retriever-bit, which prevents the mouth being quite closed, and to a certain extent stops the dog from spoiling the

game. If a retriever has, naturally or by bad usage, a hard mouth, he should be rejected, for it is a fault very difficult to eradicate, and shows a degree of impetuosity and bloody-mindedness, unfitting him for his vocation. I need not say, that all retrievers should be strictly kept from vermin-killing; the mildest dog will turn upon a rat, if caught by the lip; and the bite of the polecat or stoat is still more severe. Nothing is more clear than the propriety of keeping each kind of dog to his proper sphere of action. Each requires different tempers and faculties; and the brain and nose, which are adapted for the retriever, would be thoroughly out of place in the greyhound; but by making use of these several powers in their proper places, man is enabled to obtain a helpmate in all his sporting propensities—though not the same animal for all purposes—in the highest degree. Division of labour is known to favour high excellence in man; and the same rule applies to his assistant—the dog.

Sect. 8.—Shooting-Pony.

For grouse-shooting, the pony is only required (except for the lazy and infirm) to take the shooter to the moor; once there, he can scarcely avail himself of his assistance, without sacrificing his sport. During the time in which a man is dismounting, the grouse are getting on the run, and the interval, short as it is, will very often enable them to rise out of shot. Few active men try the experiment, but I fancy if they did, they would find that they could kill more birds with than without a pony. With his aid you may get up to the birds much more quickly; and I do not think that the noise made by the canter of the pony occasions any disturbance to them. No doubt, the increased height is a disadvantage; but, to balance this, is the increased speed in getting to your dog's point. How often do we see the pointer stand at 150 or 200 yards off, and what a time it takes to get up to him, especially if against the steep side of a hill; on the other hand, many parts of the moors are not rideable. In making the comparison, it is generally the case that the shooter on foot is an active young man, and the pony-man an old and infirm one, who takes five minutes to get off, and perhaps rides up as slowly as the other walks. Still, I should never advise any good walker to adopt the use of the pony; but, at the same time, on *most* moors, I fully believe an active, wary man may, if he likes, use one with advantage, and especially when birds are running much. The pony only requires to be broken to stand the gun; to leap in hand, or follow over a fence; and to be handy, and used to stand without holding. This is so easily taught, that it is unnecessary to allude to it here.

Sect. 9.—Expenses of Moors, or Shootings.

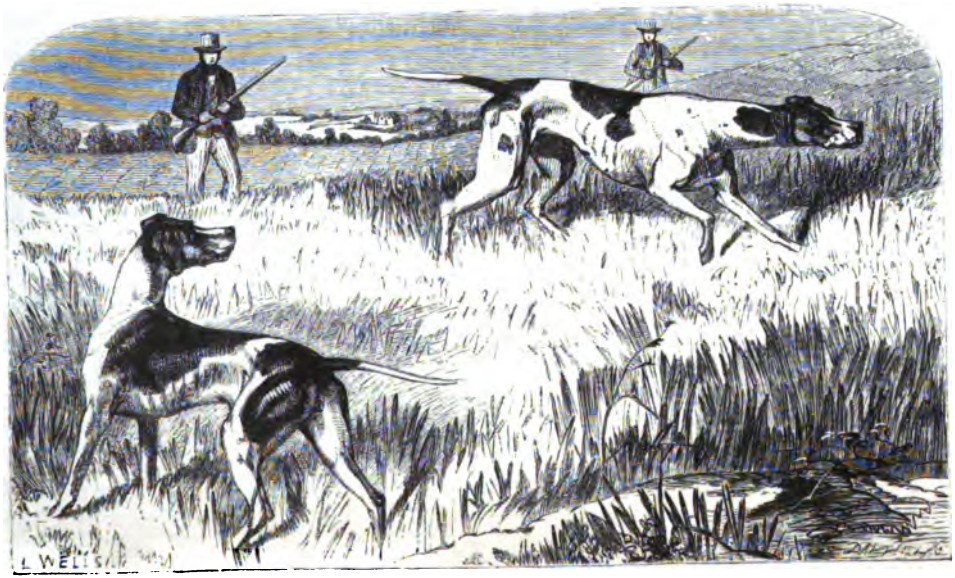
The following estimate of the expense attending upon the sport, is, I believe, about the average. In some cases, shootings are let at so much per gun, varying from 10*l.* to 50*l.* per month. It is seldom, however, that good shooting can be procured in this way; for, as the letters have all the expense of preserving, &c., they seldom perform their part of the contract fully. It is better, therefore, for one party to undertake the whole moor, and to divide the expense of the place with one or more companions.

Expense of Grouse-Shooting One Month.

Rent of Moor, per year . .	£150	0	0
Two keepers, one 24*s.*, one 12*s.*	93	12	0
Douceurs to shepherds . .	8	0	0
Keep of 7 dogs, at 12*s.* per week	31	4	0
(These are also available for partridge.)			
Fare to moor and back of two guns and one man, with dogs, taking the centre of England as a starting-place, and the centre of the moors to go to—about	15	0	0
	£302	16	0

Living at moors not charged.

I have calculated this for two guns; but more frequently the moor is divided among three or four. Such a one as would let for 150*l.* will scarcely supply game enough for more than two guns, if pretty good shots, and ardent in pursuit of sport. Some few shillings a week may be saved in the wages of the keeper; but I am persuaded that economy here is badly invested. A *really good* keeper is worth the sum I have named, in the Scotch or Yorkshire market; and he is so difficult to get, that I would rather give less for the moor and more for the man than adopt the other alternative. Between a good man and a middling one there is a difference of at least 50 per cent. in the quantity of game; and, in mere money-value, this will make up five times the difference between a pound a week and 24*s.* My advice, therefore, is to get a first-rate



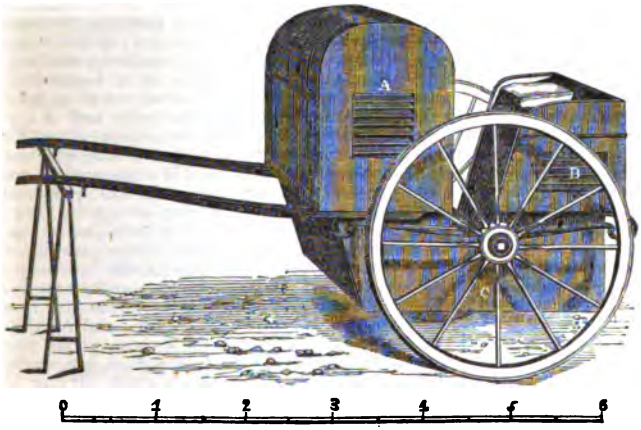
PARTRIDGE SHOOTING—A BRACE OF MODERN POINTERS, STEADY BEHIND AND BEFORE. P. 69.

gamekeeper at any price; as good a moor as can be procured at your own price; and as good dogs as you can breed or purchase, breaking them carefully yourself—so shall the sportsman enjoy all the pleasures and delights which this exhilarating sport is capable of affording.

Sect. 10.—Dog-Cart.

The following engraving of a railway-travelling dog-cart is introduced as likely to be useful to the grouse-shooter. It consists of a moveable box in front (A) to hold two brace of dogs, 4 feet 6 inches by 2 feet 3 inches high, and 1 foot 6 inches wide. Behind is a smaller box (B), to hold three dogs, and another or two may be placed under (A) where the driver's feet and legs are; (C) is slightly hollowed out, to receive the axletree, which crosses *above* it and *behind* the knees of the driver. The wheels may be packed behind (A), and after removing the shafts, it may be sent by an ordinary luggage-train at a great diminution of expense; and it may be made to suit the small Highland ponies, in point of size.

Railway-Travelling Dog-Cart.



CHAPTER V.

PARTRIDGE-SHOOTING.

Sect. 1.—Varieties of the Partridge.

This sport, though it closely resembles grouse-shooting, in its general features, especially in wild and unpreserved districts, yet differs in many particulars, which will be presently described.

The Common Partridge (*Perdix Cinerea*), is the prevalent species, though the red-legged variety (*Caccabis Rufa*) is even now occasionally met with in England; the latter is, however, so destructive to all sport, from its tendency to run before the dogs, and also so dry and insipid in flavour, that it is purposely eradicated, wherever this can be effected.

The Common Partridge is too well known by appearance to need description. It is found nearly all over England, and in Scotland and Ireland, wherever there is enclosed land. In some counties, as, for instance, in Norfolk and Suffolk, it is so generally preserved, as to be quite the pride of the locality, a good day's shooting being

there considered the *beau ideal* of country pleasure. Nevertheless, I never could see this beauty in Norfolk shooting; the birds are so tame and so plentiful, that nothing is required but the very moderate use of the legs, and a good command over the gun. Dogs are altogether at a discount, and are scarcely thought necessary to the sport, except for retrieving and driving the stubbles. In my opinion, the expectation of true sport in partridge-shooting is now for ever defeated, in consequence of the improved system of agriculture almost everywhere adopted. Formerly, in every farm, during the month of September, nearly one quarter was left with good (*foul*) stubbles, at least eight or ten inches high. Here there was as good cover as in turnips, or nearly so, and with the advantage, that dogs were capable of finding their game without risk of running them up. Another very considerable proportion was left in rough fallow, undisturbed by the scuffle; and still another useful cover was met with in the shape of rough grass; but *nous avons changé tout cela*. The stubbles are now all bagged, or mown as bare as the back of your hand; the old stale fallow is no more; and the farm is so well stocked, that in September no old feg containing grass seeds is to be met with. Thus, however desirous we may be of finding our birds on the stubbles or fallows, we cannot succeed, for want of cover in the one, and from the non-existence of the other. Besides, the science of farming is now carried to such a pitch, that no sooner is the corn off the ground, than the plough is set to work; and, therefore, we often find our best stubbles, at the time of partridge-shooting, disturbed by three or four teams of horses, with their attendant men. No wonder, therefore, that the sportsman leaves the South, and betakes himself to a country equally full of game of even a superior quality to the partridge, and allowing the full beauties of the pointer and setter to be developed. There is, however, no more difficulty in preserving a good head of partridges now than there used to be; the increase of turnips, and other green crops, has more than counterbalanced the loss of the stubbles, if the mere facility of rearing and killing game only is considered; but to kill any number of partridges in the old style, with a brace of dogs finding them, is now out of the question. We hear of more than 100 brace falling to one gun in one day; but how was this done? By using a lot of men to drive all the stubbles, and thus collecting the birds on a given number of acres of turnips or seed-clover, or some other green crop affording good lying for them. This is similar to the *battue* in principle, and, I think, more worthy of the butcher than the true sportsman. It is, in fact, the same spirit which leads to the use of the bagged fox or the trapped hare, though not, perhaps, quite so bad as those unmitigated Cockney tricks. It appears, to my limited capacity, that pigeon-trap shooting is quite as good a sport as this turnip butchery, and it may be had much more easily, and at less expense; but, as Colonel Hutchinson says, "every Englishman must have his prejudices;" and whether this of mine is founded in truth or not, it is scarcely for me to say.

The Red-legged Partridge, which is now considered to be of a different genus to the common partridge, is considerably larger than that bird; the bill, iris, and legs are of a bright vermilion; the back and top of the head are of a reddish-brown, approaching to a slate colour on the forehead and sides of the body; and of a pale ash colour on the breast and belly; the chin and throat are white, mottled with black; and there is a band of white over the eye. Various bars occur on the quill-feathers, of brown and grey, giving the bird a very party-coloured appearance. It is not so thick and plump as the partridge, and differs much in its habits. It is very common throughout the temperate zone, and great part of the torrid. This bird is more inclined to run than fly, and for that reason is a pest to the shooter, giving rise to unsteadiness in the dogs, and rarely leading to a good day's sport. It also often, by associating with the common partridge, teaches that bird its own bad manners. Unlike the common partridge, it perches on hedges and trees, but not so commonly as the pheasant, and always roosts on the ground. It was largely introduced into England some years ago, on account of its hardihood, and tendency to increase; but is now, fortunately, almost unknown, except in some few districts.

Sect. 2.—Best kind of Dogs for Partridge-shooting.

In grouse-shooting, I have remarked that a wide range is essential to success but it is generally supposed that the opposite to this is the case in partridge-shooting. There can be no doubt that, where they are very plentiful, you only want a very steady old pointer—indeed, a mute spaniel, which will not range more than twenty yards from the gun, is often preferred, because, from

the delicacy of his nose, he will leave nothing behind; but, in wild, open districts, where you have to beat 100 acres before you see a feather, these pottering pointers, will no more avail than on the moors. Here a grouse-dog is serviceable, but *he must not draw on his birds till ordered*, as partridges will seldom lie if the dog is not a perfect automaton; at the same time, a good dog ought to draw on his game when ordered to "Hold up," or "Hie on," or you may often be misled as to their exact locality. I know nothing more provoking than to walk up to a point, and, in spite of all encouragement to the dog, to be unable to make out where your game is. I have often seen this with very high-bred dogs; they seem to be unable to move a muscle, but stand as if carved in marble; and just when you have taken a circle, in the hope of finding the object of your search, the covey gets up fifty yards to the left or right of you. It is in this that the setter displays a marked superiority, as that dog almost always stands with his head to his game, and "draws" with great certainty, either by "foot" or "body" scent. This point, with me, covers a multitude of sins; and I would always reject a dog which stood in the idiotic way above mentioned. But, as many pointers are capable of drawing, I would by no means charge the whole breed with this sin; and, for partridge-shooting, on the whole, I much prefer them to their more handsome rivals.

Sect. 3.—Number of Dogs required.

In this respect, partridge-shooting contrasts very favourably with grouse-shooting, in which I have shown that three brace of dogs at least must be provided; here, however, half the number will suffice, and, indeed, one good dog will serve very well for the use of many people. Let it be remembered, that this sport is seldom followed for days together, as is the case on the moors. Those who indulge in it are generally near at home, and carry the gun perhaps only once or twice a-week, which is quite as often as the birds will allow, without becoming wild; the man, therefore, who has a large kennel, can scarcely keep them steady, and is not nearly so well off as he is who contents himself with a brace of staunch pointers or setters. This is especially true of the latter dog, which must be kept constantly at work, to be serviceable; but for the man who hunts one dog only, or even a brace, if he uses them three or four times a-week, the setter is very useful, as he is so much more hardy than the pointer, and a better feeder also; the great mistake is the want of work before and after the season begins—the former, to get the dogs steady, yet fit to work; the latter, to keep them so.

Sect. 4.—Retrieving, Dress, &c.

Retrieving partridges is to be conducted exactly the same as for grouse.

Dress.—This also should be the same as for grouse-shooting.

Sect. 5.—Management of the Beat.

Col. Hawker was, I think, the first writer who drew attention to the great disadvantage of beginning to search for partridges before the dew is off the ground; it is, however, so important a caution, that I am much surprised it was not before his time generally acted upon, and also, that even now many experienced shots dispute the opinion; these, however, are the exceptions, as the Colonel's suggestion is now generally followed. His rules are so concise, and, at the same time, so sound, that I shall make an extract from them, being the summary of the requisites for successful partridge-shooting, viz.:—"*First*, to have good markers, judiciously placed, and *then* to disperse the birds; the best way to do which, is to head the birds, by making an extensive *circle*. The second is, to make no more noise than what cannot absolutely be avoided, by doing as *much by signal* and whistling, and as little by *hallooing*, as possible. Thirdly, go on the hills to find, and drive down from them, the birds; and then in vales to kill them. Fourthly, when distressed for partridges, in a scarce country at the end of the season, take a horse, and gallop from one *turnip-field* to another, instead of regularly slaving after inaccessible coveys."—*p.* 165, *7th edition*. He also adds, in a note, the following advice as to marking:—"Always be sure to tell a young marker that he must *carry his eye well forward*, when a covey of birds begin to skim in their flight; and consider that, as they may continue doing so for a field or two, he cannot safely say that he *has marked them down*, till he has seen them stop and *flap their wings*, which all game must do before they can alight on the ground."

Driving Partridges is now very generally adopted in October and November, and in some districts from the very first. It is practised much on the same principle as with grouse.

PRESERVED TURNIP-LAND.—I shall now proceed to describe the usual mode of conducting the sport in the highly-preserved turnip-districts. At nine o'clock in the morning—for if begun earlier, the birds will return to their feed—the whole of the stubbles are beaten by men and spaniels, in such a direction as to drive all the birds into certain large fields of turnips, clover, mangold-wurzel, or potatoes; all of which afford good cover. Two or three ponies are very serviceable, since they may be rapidly ridden over the ground, and they may serve to prevent the birds from taking a wrong direction; besides, as the whole ground must be beaten between nine and half-past ten or eleven o'clock, it requires the speed of the horse, or else a great number of beaters, to go over it. By the time last mentioned, we will suppose all the birds driven into the largest fields affording the above cover for them; then the party of shooters form a line at one side of the field, and having a man at the end of every ten yards, and the guns at intervals of forty, they proceed to "walk the turnips." Being accompanied by the keepers, and a retriever or two, any wounded bird is expected to be retrieved; but many escape, since the scent of the turnips is so very prejudicial to the perfect use of the dog's nose. In walking straight across the field, it is divided by imaginary lines, which commence midway between each two guns, and run forward at right angles to the line; each shooter, therefore, is allowed to shoot only at those birds which are actually within the lines on each side of himself; and all birds killed in that space are said to fall to his gun, even if really killed by an adjoining one. This rule is laid down to prevent two or more shooting at the same bird; and also to set at rest the conflicting claims which any one or more may set up to a superiority in shooting. It is a very useful rule, and should in all cases be rigidly adhered to, not only with partridges, but also in grouse-shooting. It is only when both barrels have been discharged, unsuccessfully, that a man's next neighbour has the privilege of "wiping his eye," if he can. From the immense numbers of birds which are often driven into turnips, the shooting is "fast and furious," and requires the breech-loader of necessity, as without it the whole line have to wait while the gun is reloaded in the old-fashioned way. It is no uncommon occurrence to find from 70 to 100 brace in one large field; and, early in the season, three-fourths of these may be shot at, since they lay like stones, and get up singly, or two or three at a time only; which, among a party of four or five, are soon disposed of. At every shot, the whole line wait either till the shooter has reloaded or changed his gun—which his servant, in the latter case, loads for him, ready for the next shot. In this way, the whole of the turnips, clover, &c., is closely beaten, and sometimes a second time over, with as good success as the first; for, as dogs are not often used, and the birds lie close, it is usually the case that one-half of them are not put up the first time. Those which escape the formidable line are carefully marked down, and followed up afterwards, when the numbers are reduced elsewhere. In this kind of shooting, however, it is scarcely desirable to follow up broken coveys, since they all lie very well in the good cover which green crops afford; and the birds are so numerous, as to keep the guns constantly going for four or five hours, which is the usual term of this sport, for the birds leave the shelter of the turnips in the afternoon, and go on the feed again, where they are not to be slaughtered without more trouble than the Norfolk sportsman thinks they deserve. Such is the fashionable and modern style of partridge-shooting. It has many variations, of course, which depend upon the quantity of birds, and the size of the fields of turnips, &c.; and it is chiefly to be met with in perfection in those districts where turnip-husbandry is fully carried out; and these being generally of a light sandy soil, are peculiarly suited to the habits of the partridge.

THE WHEAT-LANDS.—Until very lately, exceedingly good partridge-shooting was often met with in the wheat districts, even on the strong clays; but the wheat is now so very generally bagged, that the lying for them is gone, and, consequently, by the second or third week in September, the birds are off the moment the shooter enters each field. It is here that judgment is required, and that good dogs are so serviceable; for it is a singular fact, that birds will often lie after they are found by a steady dog, although without him they would get up at 200 yards' distance from the gun. In the early part of the season, in these bare stubbles, the birds may be found, when in any numbers, by one steady dog, which should beat only about forty yards to the right and left of the gun. After the second week, however, it is generally necessary to permit a wider range; because, by that time, the game has become

more scarce and wild, and, to find any number, the sportsman's legs would be too severely taxed for the powers of most people. If a very steady brace of tolerably fast and wide-ranging dogs are now used, the sport may be enjoyed to great perfection; but the dogs must be very well broken; must never be inclined to "foot" or "road" the birds till ordered, and must be very steady behind. The plan is to send them off into the far end of the field, ordering each off up the hedge side, and then letting them beat back towards you; or otherwise sending them round *outside* the hedge, with a marker, and letting him loose them at the other end. This is the better plan of the two, as the passage of the dogs under the hedge alarms the birds often, so as to prevent their lying. In well-broken dogs, accustomed to beat towards the gun, as well as from it, the whole field is then systematically hunted, the sportsman remaining where he first entered, and having his back to the wind. When either dog finds, the other, of course, backs, and they both remain firm on their "point" and "back." The shooter readily detects the "pointing dog," and walks straight up to him, or, rather, to his birds—and it will be found that in many cases very wild birds will allow him to come up and get "a right and left." This arises from their being inclined to lie close, with their heads down, as soon as the dog approaches on their scent. If the dog holds his head high, and stops steadily the moment he catches the body-scent, it is highly probable that they will neither run nor rise, but, watching the dog intently, will allow the sportsman himself to come up in the opposite direction.

Mixed Farms. — Hitherto we have been considering the two extremes of partridge-shooting, viz., the turnip-shooting without stubbles, and the stubbles without turnips; but there is also a mixed country, consisting of the great majority of farming districts, and composed of stubbles and green-crops intermixed, but without the large fields of turnips found in the light soils of Norfolk, Suffolk, &c. Here we have, perhaps, four or five hundred acres in wheat and barley stubbles, with a few acres, here and there, of turnips or potatoes, and now and then a field of good feggy grass, &c. If, in such a district as this, the birds are pretty well preserved, and are not continually being persecuted, good shooting may still be obtained. The following precautions will, perhaps, enable any sportsman, who has the privilege of shooting over one or two thousand acres of this mixed land, to proceed in such a way as to obtain good sport. In the first place, he should carefully abstain from shooting till all the corn on his own beat is cut, and also that on adjacent beats, if he thinks the owners of them likely to leave them quiet. Standing corn is such a harbour for birds, that you can do nothing with your own but frighten them away; and if your neighbours blaze away at theirs, they will only contribute to fill your fields with game. Wait, then, till all your own is cut, and then begin throwing off some fine morning, as soon *as the dew is off*. First, beat for birds in the stubbles, taking care to have very steady dogs, and to give them the wind. As soon as a covey is found, endeavour to drive them up, by walking to them from a quarter at right angles with your dog's point, so that they shall not go straight away from you, but pass you, if possible, and give you a chance to fire both barrels, which you will do, if possible, at the *two first birds which get up*, they being generally the old ones; then, either yourself, or by your marker, mark down the remaining birds, and proceed at once to hunt for them wherever they may be, if not more than half-a-mile distant, which is not likely, so early in the season. If they have dropped in turnips, take up one of your dogs, unless both are very steady, and proceed to beat for them carefully. When found, they will often get up singly, but if not, then proceed as in the stubbles, and mark again; the third time they are almost sure to be scattered, and you may then secure all the remaining birds, if you have good luck, and a good steady dog. When this first covey is disposed of, but not till then, proceed to search for another, and, as the day wears on, try for them on the fallows, if dry, or in the turnips, where they collect in the middle of the day, even if not driven there on purpose; or, you may often find them in the grass which is generally left by the side of a brook, especially if search is made, in the middle of a hot September day. Here they are almost always scattered, and require a good-nosed dog to make them out, and they lie very close. When, in the middle of the day, during the latter end of December, birds are not to be found, and there are open spaces of grass in any neighbouring covert, there is the most likely place to find them. They are exceedingly fond of such places, when they have been much driven about; but they seldom are found in thick underwood.

SECT. 6.—EXPENSES OF PARTRIDGE-SHOOTING.

	£	s.	d.
Hire of manor, which may be calculated at £5 per 100 acres	50	0	0
One keeper, at 18s. per week	46	16	0
Gratuities to labourers . .	5	0	0
Travelling expenses . .		*nil.*	
	£101	16	0

Or about one-third of the expense of grouse-shooting.

SECT. 7.—QUAIL AND LANDRAIL-SHOOTING.

THE QUAIL (*Coturnix Communis*), and the LANDRAIL (*Ortygometra Crex*), are often met with in partridge-shooting. They are nearly of the same size, but fly very differently. Both are migratory birds, and arrive in this country in the latter end of summer, seldom remaining after the middle of October, and generally not quite so late. A *bevy* of quail, as the brood is called, is seldom seen in Great Britain, but occasionally one or two turn up in a covey of partridges—they fly in the same way, and dogs generally stand to them. Landrail are never found in greater number than two together, except by accident. Their flight is exceedingly soft and bat-like, though slow: they can scarcely escape the gun when put up, but run so much as to be very difficult to spring. They do much harm to the dogs, by this propensity to run, and pointers and setters should not be encouraged to hunt them; they are oily for the table, and are only fit for the sport and amusement of schoolboys. These young gentlemen may amuse themselves by calling them with a notched piece of copper, drawn over a piece of bone, which imitates their note, and brings them close to the gun, when they may be routed out with a terrier or cocker. They are eminently adapted to schoolboy sport, because they generally frequent places unoccupied by game, and near villages, &c., such as vetches, willow-beds, and market-gardens.

THE GREAT PLOVER (*Œdicnemus Crepitans*) is often met with in September, by the Norfolk, Suffolk, and Sussex partridge-shooter; and, indeed, over all the sandy soils in the south-eastern parts of England. They frequent open sheep-downs, and large fallow-fields, and are rather difficult of approach, so as seldom to allow the dogs to point, but getting up wildly and out of shot. By great caution, and keeping up wind, they may sometimes be shot. Their food is composed of snails, slugs, worms, and insects; and they are also said to devour frogs and mice. In length, this bird is fully seventeen inches. The iris is golden-yellow; base of bill greenish-yellow, point black. The back is of a pale brown, each feather having a dark-brown stripe down its middle; wing primaries very dark brown, the first two having a white patch at the end. Tail-feathers tipped with black, then a broad bar of white, and the remainder of a mottled-brown. The breast, belly, and vent are almost white; legs and toes, yellow; claws black.

THE GOLDEN PLOVER (*Charadrius Pluvialis*) belongs to the true plovers. It is found, during summer and early autumn, on the high breeding-grounds of the grouse and partridge, in Scotland and the north of England. They associate in large flocks, as soon as the breeding-season has terminated. A remarkable peculiarity connected with this bird, in common with some other plovers, is, that it changes its plumage in the spring, and retains that change till the autumnal moult. This change is common to both sexes, and consists, in the golden plover, of an alteration from a greyish-white colour to black, on all the under parts of the body. The old feathers actually receive the black pigment in the spring, and new ones, in addition, show themselves. The spring moult, therefore, is an addition, not a change; and the quill-feathers are not lost or altered. The golden plover lays four eggs, of a stone-coloured ground, blotched with dark brown. These are large in proportion to the size of the bird, which is eleven inches long. These birds feed on worms, snails, &c.; they have a shrill, whistling note, which may be easily imitated, and in this way they are often decoyed. They are excellent eating, and fetch a good price in the London market.

THE DOTTEREL (*Charadrius Morinellus*) approaches very closely to the golden plover in habits, and is found on the same kind of ground, though reaching somewhat farther inland. In the downs of Wiltshire and Berkshire, small flocks, or trips, as they are called, are often found in the spring and autumn, as well as on the chalk-hills of Hertfordshire and Cambridgeshire; here, however, they are only met with on their passage to their breeding-grounds, which are further north, on the high moorlands of Scotland and the North of England. The plumage of this bird is very rich: beak black; iris brown; back of head and neck, dark brown; back ash-

brown—feathers edged with buff; tail greyish-brown, tipped with white; breast rich fawn-colour, with a band of white extending from shoulder to shoulder, and edged with a dark line; belly black; legs and toes greenish-yellow.

THE GREY PLOVER (*Squatarola Helvetica*) is like the golden plover in most of its habits; but, from the presence of a hind toe, it is not included among them. It is only a winter visitor, breeding in high northern latitudes. The beak is black; iris very dark-brown; top of head white; back black and white; chin, breast, and belly, black; vent and under tail coverts, white; legs, toes, and claws, black; length of bird, twelve inches. In winter, the grey feathers become paler, and the belly is grey instead of black.

THE PEEWIT, OR LAPWING (*Vanellus Cristatus*), is so well known, as scarcely to require description. It is found on all poor, waste-lands, where the fields are large; but it is so wary, as rarely to come within gun-shot. Its eggs are sought after as a great dainty.

THE BUSTARDS, great and little, are now so exceedingly rare, as to be scarcely worth noticing in any treatise on Shooting. The last great bustard shot in this country was killed in 1831, and a little bustard, also, was bagged in 1839; since which time I am not aware that any bird of this genus has been seen in England.

SECT. 8.—SHOOTING HARES AND RABBITS IN THE OPEN.

THE HARE (*Lepus Timidus*), and the RABBIT (*Lepus Cuniculus*), are, in most countries, the object of the shooter in those situations only where the former is not capable of being coursed, and where the latter is found lying out, as among turnips, or in hedge-rows, &c. Both require the aim to be carried well forward; and if the former is going straight away, the tips of the ears, if erect, are the best situation to point the gun to. In coursing districts, it is considered as great a crime to shoot a hare, as in fox-hunting districts to shoot or trap a fox; but in thickly-enclosed countries, the hare affords even less sport to the courser than to the shooter, and there she may well be knocked over with a charge of shot. Pointers and setters will stand both hares and rabbits, if they are shot to them; but if this is never done, they soon learn to disregard the scent altogether, unless, by the way, they are allowed to chase. It is at those animals that the badly-broken dog so often tries the temper of his master, because he not only, in chasing them, runs the risk of putting birds up, but he also very often chases the hare so far, as to be lost to sight for a considerable time. The whistle is used till the cheeks ache; and it only requires the presence of a Frenchman, and his constant "Sacré nom," &c., to complete the picture of impotent fury. It is no use thrashing the dog, the only result being, that he will refuse to come back next time, and will hang about at the distance of a field, completely upsetting all the plans of his master, who is set at defiance by his slave. For these rascals, the only remedy is the spiked-collar, which may be had at the gunmaker's, of varying degrees of severity; the pointer's thin skin requiring a less sharp one than the setter's hairy coat. By working the dog with a cord of about twelve or fourteen feet in length, he is capable of being stopped with great severity, if he chases when the hare starts from his point; or, if the hare goes off her form without his finding her, the cord generally brings him up at some hedge, or in cover. It is a cruel remedy, but the only one for a badly-broken and unruly dog, and is certainly preferable to a charge of shot, which is the alternative. Colonel Hawker has given a drawing in his book of a collar, consisting of two side-pieces of iron, connected by a screw-piece at the top, and united at the bottom by a triangle running through open eyes in their extremities. This, he says, by attaching the cord to the triangle, is made very severe, the two side-pieces being pressed very strongly against the dog's neck. But as there can be no doubt of the *efficiency* of the spiked-collar, and as *both* depend upon the pain they give for their utility, I can see no object in substituting a cumbrous and expensive machine for a light and cheap one. Neither will stop a dog, except by the pain they give him, and therefore they are both objectionable, if they can be avoided; and if one of them must be used, which I believe it must in troublesome cases, I should certainly give the preference to the old and long-tried mode, over the plan proposed by Colonel Hawker, high as his authority stands as a sportsman.

CHAPTER VI.

MARSH AND FEN-SHOOTING.

Sect. 1.—The Birds met with.

Snipe-shooting is the most important and interesting of the various kinds of shooting included under the above head; but many other birds are met with in the fens of Cambridgeshire, Norfolk, Lincoln, and Essex, on the eastern coast; and on those of Lancashire, Cheshire, &c., on the western side of England, which are exceedingly good for the table. In Ireland, especially, this kind of shooting is very good; and in some of the bogs forty or fifty couple of snipes may be easily bagged in the day. The following birds may all be included under this head; though some, as the plovers, for instance, are generally more abundant upon high and dry land. All, however, are found in the same manner as the grouse and partridge—by the aid of the pointer or setter—and, therefore, they can scarcely be included under Wildfowl-shooting. At the head of the list stand the snipes, as affording the best sport of any.

The Great or Solitary Snipe (*Gallinago Major*), is not very common in this country, but is occasionally met with in the fens of Essex and Norfolk, which it visits only in the autumn. In length, it is about 12 inches; and it weighs from 7 to 9 ounces; female larger than the male—which latter is lighter in colour than the female. The bill is of a pale yellow-brown, becoming darker towards the tip; iris, dark-brown—a dark line extends from the eye to the base of bill; top of head, rich dark-brown, with a longitudinal stripe of paler feathers. The whole of the breast, and the scapulars and interscapulars, of a rich dark-brown. Tail-feathers, 16, of which the eight outside ones are nearly all white—middle eight tipped with white, next to which is a bar of black, then a chestnut bar, and the bodies of the feathers composed of a brownish-black. Chin, pale yellow-brown; breast and sides covered with semicircular patches of dark-brown or pale ground; belly and vent, dirty-white; legs and toes, greenish-brown.

Common Snipe, Snite, or Heather-bleater (*Gallinago Media*), is an indigenous British bird; though many also arrive from beyond the seas in the autumn, and leave in spring. It breeds in considerable numbers in the heaths and moors of the northern counties; and often disappoints the grouse-shooter, by rising before his dog's point, when he anticipates a more desirable shot. When descending from its flight, it makes a peculiar noise with its wings, which is compared to the bleating of a goat; and, as it chiefly makes this noise when descending to its mate, after its rising to a great height in the air, it is supposed to be a manifestation of pleasure or excitement. Its food, like that of all its tribe, consists of worms and insects, small snails, and seeds; which last, probably, are only accidentally swallowed with the worms and other insects. The whole length of the common snipe is from 10 to 11 inches; beak, 2¾; female larger than male. The plumage is much the same as the solitary snipe, with the exception of the tail, which has only fourteen feathers, of which the anterior two-thirds are of a dull black, edged with brown; beyond this they have a patch of chestnut, then a dusky-brown band, and, finally, tipped with chestnut. It lays five or six eggs, of a pale olive colour, irregularly blotched with dusky-brown.

The Jack Snipe, Judcock, or Gid (*Gallinago Gallinula vel Minima*), rarely breeds in Great Britain, which it visits in the winter only. It is more solitary than the common snipe, and is a very sluggish bird, being often difficult to put up; so much so, as sometimes to allow the dog to catch it on the ground. Unlike the common snipe, it utters no scream on rising, and is remarkable for confining itself to peculiar localities, which it almost invariably visits at the same period of the year. It is very rarely known to breed here; and the eggs which have sometimes been shown as those of the jack snipe, are pronounced, by Mr. Yarrell, to be those of the purre. In length, it does not exceed 8½ inches; beak, 1½. The plumage, in winter, is more of an ash-grey than the reddish-brown which it bears in autumn and spring. The old birds may be known by the brilliant iridescence of their feathers. The plumage differs from the two above described, in the following particulars, viz.:—It has no light longitudinal mark on the top of the head; tail-feathers, twelve, all greyish-black; breast, belly, and vent all white.

Besides these three species, there are also found, occasionally, though very rarely,

the BROWN SNIPE, and SABINE'S SNIPE, the description of which it is unnecessary to give.

IN ADDITION TO THE SNIPES, on most of our fens, great quantities of birds peculiar to these localities are to be met with and shot, if approached with quiet and caution. The sport they afford is not, certainly, equal to those kinds I have previously described; but, as it does not require a certificate to shoot any of these birds, with the exception of the snipe, and as in many of the fens permission to shoot is easily obtained, it is well calculated for the young beginner. In the fens of Cambridgeshire, near the University, there is seldom much of this kind of sport, because the Cantabs are continually driving the birds away by their persecutions; still it is of service to them in affording exercise, and the hope of sport, if not the reality. At some distance, and towards the coast, plenty of birds may be found, and a great variety also. The following are the principal varieties, and their usual haunts:—

THE BITTERN (*Botaurus Stellaris*) is not now so common as it formerly was; it is, however, still found occasionally, and it may then be known by its "booming," when on the wing of an evening. This sepulchral sound is not unlike the deep bellowing of a bull. It was one of the birds which was the object of the falconer's art, and would often injure his hawks with its powerful bill. The plumage is of a rich reddish-yellow ground, variegated in a beautiful manner with dark-brown and black marks, especially on the back of the neck. It is from 28 to 30 inches in length; legs and feet, grass-green. It feeds on fish and reptiles. Its nest is built on any slight mound out of flood's way, and it lays four or five greenish-blue eggs. The bittern is a slow and heavy bird in its ordinary flight, though sometimes it shoots at a good rate, and is then more difficult to kill. It is a very shy bird, and difficult to approach within shot.

THE HERON (*Ardea Cinerea*) is a bird renowned in falconry, and has been immortalised in the work of Dame Juliana Berners on that subject. It is a gregarious bird, breeding, like the rook, in what is called a heronry. It feeds almost entirely on fish, which it watches for with great patience. In colour, it is of a pale slate over all the upper parts; and of a creamy-white, with dark spots on the breast and belly. The accompanying description will fully answer the sportsman's purpose, as far as the gun is concerned. As it is no longer preserved for hawking purposes, it is seldom met with. There are still more than thirty heronries in England, and from them a stray bird often escapes into the fens, and is there picked up by the sportsman, who should be very careful in approaching it, if only winged, as its bill is strong and sharp, and will inflict a severe wound. Colonel Hawker advises that they should be galloped at on the leeward side, using a fast horse, and shooting from his back; but, as their ground is generally fenny, I should not like to attempt the feat.

THE RUFF, female REEVE (*Philomachus Pugnax*), is celebrated, as its name implies, for its pugnacious habits. The plumage also changes in a very remarkable manner at certain periods of the year. At the breeding-season, a beautiful frill of feathers appears round the neck, which is also variable in colour. Each male, or *ruff*, has his own little walk, which he defends from all intruders, *vi et armis*. The females, or *reeves*, however, are gladly welcomed; and on their arrival a regular pitched-battle takes place, in which the grass is strewed with feathers. The nest is formed in a hollow of the grass, and in it three or four eggs are deposited, of a greenish-white, blotched with brown. The ruff is easily shot, when it can be approached; but it is taken in springes with still greater facility; or, by means of stuffed decoy-birds, which entice the ruff, through his propensity to fight, they may be allured into the net. When taken they are fattened for the table, and are then considered a great delicacy. The food used is bread and milk, with hemp-seed bruised, and mixed with it. They leave Great Britain in the winter.

THE KNOT (*Tringa Canutus*) is very like the ruff in its habits, and somewhat resembles that bird in all respects but the frill. It is shot or taken in the same way, by means of springes or nets. On first arriving in this country it is stupid and dull, but soon becomes wary, and difficult of approach. It feeds on aquatic insects and worms, and swims with great ease. Its length is 10 inches; its general colour is a reddish-brown, with black or dark-brown markings. Wing and tail-feathers, greyish-brown; chin, neck, breast, and belly, of a rich chestnut; legs, toes, and claws, bluish-black.

THE GODWITS, BAR-TAILED AND BLACK-TAILED (*Limosa, Lapponica et Ægocephala*), are not so common as formerly, when they used to be fattened in large quantities for the London market. The chief distinction between the two species

consists in the tail-feathers, which are black in the latter species, and barred in the former. The length of the whole bird is 17 inches, and of the beak alone, 4 inches. The plumage varies much in the winter and summer. In winter, the back is ash-brown; primary quills dusky-black, with a bar at the base of each, visible on the entire wing; tail-feathers black at the outer two-thirds; chin, breast, and belly, light-ash; vent white; legs and toes dusky-brown. In summer the back changes to dark-brown, each feather becoming almost black at the base; the breast also becomes of a white ground, with bars of red-brown and amber.

Among the plovers, the males are larger than the females; but the reverse is the case with the snipes and godwits. The great plover, golden plover, grey plover, and dotterel, are found also among the fens and marshes, but they are more frequently found on high and dry ground; and I have, therefore, included them in the chapter treating of that species of shooting. All these birds are migratory, and some are only occasional visitors to Great Britain. To the sportsman, the most interesting are the snipes, the bulk of which arrive in the autumn, on the east coast, where they only stay a short time, and then pass on to the interior, and to Ireland. They return in the spring, taking the reverse course, and are again found on the eastern coast in February and March. The whole of the low coast, on the eastern side of this island, is the resort of these birds in the autumn and spring; but during the severe winter months, they prefer the warmer bogs of Ireland, and the west coast of England and Scotland. Snipes almost invariably fly upwind, and, when the gun is pointed at them, they dart and twist in a wonderfully rapid manner, at which time they are very difficult to hit; but by catching them either the moment they rise, or when they have done twisting, they may be readily bagged with No. 8 shot. They are not capable of carrying off much shot; and, if a larger size is used, the intervals between the shot with an ordinary gun will be greater than the size of the snipe's body, and, consequently, frequent misses will occur.

Sect. 2.—The Dogs used in Snipe-Shooting.

Snipe-shooters prefer the setter, because he is more capable of sustaining with impunity the wet and cold of the marshes, in which this bird is found, than the smooth-skinned pointer; he should, however, be a very steady dog, and accustomed to work to hand, and to keep to heel when ordered. A pointer will do the work well for a time, but is almost sure to suffer from rheumatism, or the yellows, before he has done a week's work. Every snipe-shooter, when he means business, should provide himself with one or two good setters, and a retriever, though the latter is not so necessary as in partridge-shooting; for, as the setter is generally used for snipe single-handed, and as he must learn to foot the snipe, and to potter a good deal, he will scarcely get much harm from retrieving, if made steady to "down charge."

Sect. 3.—Snipe-Shooting.

When starting in search of snipe, choose, if possible, a mild day, after rain, but with the surface just becoming dry; for if very wet, the snipe refuse to lie, as do most birds, in fact. Walk up-wind to the end of your beat, with your dog or dogs, at your heels, and you will pick up a few shots, but not many; when arrived at the end, cast off your dog, and let him steadily beat every inch of ground, taking it in a zig-zag direction, but always keeping your face more or less down-wind. This will give your dog the chance of using his nose, and yet enable you to get between the snipe and the wind, which they always try to face, and, in doing so, are very apt to make a circle round you, thereby offering a very favourable shot. When your dog stands, keep well to windward of him, always going up to him on that side; be very careful not to hurry yourself or your dog, and do not shoot till the snipe has done its twistings, unless he first rises at more than twenty yards from you, when have him down at once. If your dog finds a snipe to windward of him, and you are behind, your only chance, unless you are a crack shot, is to head your dog well, and prevent the snipe going off in the wind's eye away from you, in which case his vagaries are so eccentric as to baffle most eyes and hands; but as snipe generally lie well, you need not make so great a circle as for partridge or grouse, under similar circumstances. Setters generally take to snipe soon; and only require a few to be killed to them, to make them as fond of the sport as of grouse or partridge-shooting.

Sect. 4.—Dress.

Recollect, that in snipe-shooting there is a constant risk of getting into water, up to the hips, or nearly so. Long and

waterproof boots should be worn, with plenty of warm hose, drawers, and flannel-waistcoats. It is seldom, in spite of these precautions, that the snipe-shooter passes the day without getting wet, as he is almost sure to get into water while shooting. Nothing is so treacherous as boggy and marshy land, and therefore he ought to walk slowly and cautiously the whole day; if, however the sportsman takes care to keep his boots waterproof, by the following composition, he will only require to keep his upper works dry, by avoiding severe rain, and absolute duckings.

RECEIPT FOR WATERPROOF BOOTS.

Boiled Linseed Oil	1¼ lbs.
Yellow Wax	3 ozs.
Canada Balsam	1 oz.

Mix over a slow fire. This is to be rubbed in alternately with neat's-foot oil.

But the snipe-shooter may persevere with impunity, through any amount of wet, if he takes care to keep moving, not to drink any quantity of ardent spirits, and to change his clothes the moment he gets home. He should also, as soon as he can after a wetting, soak his feet and legs in strong hot salt and water, and then clothe warmly. The two great promoters of disease are spirits, and sitting in wet clothes; and both may easily be avoided, without loss of sport. The coat, waistcoat, and trousers should be of woollen, but varying in thickness, according to the weather. Velveteen is very cold when wet; and all the Mackintosh inventions retain the perspiration too much, to be safe for those who indulge in active pedestrian exercise.

SECT. 5.—THE GUN, AND ACCESSORIES.

These may be the same as for partridge-shooting, but the shot should never be larger than No. 7; some use No. 9, but it is not heavy enough to bring them down with certainty; and it is more humane to allow them to escape the shot, than to send them off with two or three wounds in their bodies, containing each a pellet of No. 9, which may cause them to die a lingering death.

SECT. 6.—EXPENSES.

The expenses of snipe-shooting are so variable, as to make it quite impossible to form an estimate which could be at all serviceable. Many English and Irish marshes may be shot over without difficulty, not being preserved at all, or with very little strictness. The French marshes are also celebrated for this sport, especially the neighbourhood of Abbeville; but as this book is restricted to British sports, I shall not venture into a consideration of them.

CHAPTER VII.

COVERT-SHOOTING.

SECT. 1.—HABITS OF THE PHEASANT.

PHEASANTS, woodcocks, hares, and rabbits, are all found and shot in the woods of Great Britain; but the PHEASANT (*Phasianus Colchicus*) is the grand foundation, the *pièce de resistance*, of the covert-shooting in this country. Cock-shooting is said, by Colonel Hawker, to be comparable to fox-hunting; but it is only attainable at certain periods, soon passing away, and is confined, even then, to favoured localities. Pheasants, however, may be reared in any part of England, Ireland, or Scotland, where there is dry, healthy covert for them. They are esteemed as the greatest delicacy, being of a flavour commensurate with their size, and form a most important item in a basket of game sent as a present. For this reason they are carefully preserved, and most probably will continue to be so, by those who have purses long enough to be able to pay for such an expensive luxury; for, though they may be bought at about 7s. per brace, they generally cost more nearly 1*l.* 1s. than that lower sum. But, while they are so easily poached, and sold by the poacher, this will always happen, because the game-preserver rears three times as many as he bags; and, therefore, he must always calculate each bird to cost him three times as much as it would do, if no poaching was carried on. It is quite unnecessary to describe the form of this bird, which is familiar to all. It is not indigenous to this country, but was introduced from Georgia originally; it

has now, however, become naturalized, though its high price in the market would soon render it as scarce as the bustard, if not strictly preserved. It can be tamed to a certain extent, but, even if brought up with poultry, it retains a certain degree of wildness, so that the least alarm occasions it to retreat in terror to some protection afforded by an adjacent shrubbery or plantation. The pheasant roosts in trees, and is very fond of the fir, and other horizontal-limbed evergreens, which afford good shelter from the rain, and also a substantial perch. Spruce-firs they are very partial to, and in these trees they are not readily picked off their roosts by the midnight poacher. Pheasants have a strong propensity to use their legs in preference to their wings, when disturbed; and this must be considered well by the sportsman in pursuit, as well as the keeper in defence, of his game. The latter I have already directed how to manage his department, in the chapter devoted to the preservation of game; the former I will endeavour to assist in the present one.

Sect. 2.—Best Dogs for Pheasant-Shooting.

For the purpose of hunting the pheasant, so as to compel him to rise before the shooter in covert, the spaniel or cocker is, no doubt, the best kind of dog. Pointers or setters which are broken to run in when ordered, may do in open spring-falls, and there they afford excellent sport, but they are too large for thick covert, and recourse must be had to a team of small spaniels, either regular springers or cockers, including King Charles's and Blenheim spaniels. These generally give tongue, varying in note with the kind of game before them; but they are sometimes mute, in which case they require each a bell attached to a collar. Terriers, also, are occasionally used; but they have seldom sufficiently good noses for the purpose, and they are difficult to break from vermin. The springer is a larger dog than the cocker, has a longer nose, a smaller eye, and greater strength and hardihood. He gives tongue sooner and louder on a scent, and is much more impetuous by nature, requiring strong coercion. The cocker, on the contrary, has a most delicate nose, and a keen perception of the shades of scent; giving a slight whimper on first touching upon it, and changing to a merry note only when quite hot upon his game. These last are exceeding pretty workers; and if they only had equal powers of endurance with the springer, would be ten times as valuable; they are, however, delicate; and their full eyes are so liable to be bruised and torn, that a very few hours' work will knock them up. Many sportsmen prefer the setter or pointer for covert-shooting; and if there is much spring-fall, so that the setter can be seen, he is, I think, quite as good as the very best spaniel, and much better than a bad team; in thick coverts, however, he is of no use, as his size prevents his getting through the runs, and he would leave great quantities of game unfound. If used, he ought to break his point at command, and is often even better than any spaniel at a body-scent, provided he has as good a nose; still, it seldom happens that he can hunt a foot-scent like these dogs, or that he can distinguish between a true and a "heel" scent, which spaniels soon learn to do. It is very wonderful to see pointers and setters go into covert, and break their points continually, and then come out and stand for an hour in the open; yet such is constantly seen in old, steady dogs; but such animals are seldom of much use out of covert, as they are constantly poking along the hedgerows, and leaving the regular line of beat untouched. My preference, therefore, would be given, for pheasant-shooting, to a good useful team of the Sussex spaniels, which have plenty of courage and hardihood, but require, also, lots of work to bring them down to steady hunting, Once broken, they are exceedingly good dogs, and their noses are as tender as that of the best cocker that ever hunted. The Clumber spaniel is, however, the fashionable dog of the day, and being easily kept in command, he perhaps deserves his reputation, but one hard day knocks him up for a week.

Number of Dogs required.—Of the large springers, a couple and a half, or two couples, are enough for any covert, and one couple will suffice for most purposes. Of the smaller sorts, double the number will be none too many.

Sect. 3.—Breaking and Using the Spaniel.

The Breaking the Spaniel should be commenced very early, especially with the larger and stronger sorts. They are naturally very impetuous, and yet must be restrained in their range to thirty yards from the gun, at the most. They should be taken out, first of all, in small coverts and hedgerows, and imbued with the desire to hunt, which they acquire readily enough, and at six or eight months old are generally quite ready for any sport they may be

WILD PHEASANT SHOOTING.—A RUSH FOR A SHOT. P. 81.

entered to. Previously to this, they should be accustomed to come to heel, and keep there as long as they are ordered; and they should be used to hunt to the wave of the hand, and not to break fence till permission is given them. Great care should be taken that they are not allowed to amuse themselves by "self-hunting," which they are very apt to indulge in when first entered to game. When spaniels are intended exclusively for pheasant or cock-shooting, or both, they should be kept carefully to those birds, and should be stopped, and rated soundly, whenever they "speak to fur;" but the great point is to get them to keep close to the gun, and not to press their game until they are sure that the sportsman is near enough to take advantage of their efforts. Few spaniels are really worth having till they are nearly worn-out, for their struggles in wet covert, with briars and thorns, soon spoil their looks, and their constitutions too. When too riotous, there are three methods of steadying them—first, to put one fore-leg into the collar, compelling the dog to hunt on three legs; second, to hang a shot-collar round the neck; and third, to confine one hind-leg by a strap, buckled tightly round the leg, above the hock. The strap must be changed repeatedly from leg to leg, as it soon cramps the muscles so much as to render them useless. If the fore-leg is put in the collar, this leg also should be occasionally changed. There is very little choice in these modes; either will answer the purpose of subduing the courage and pace of the dog; the shot-collar is, perhaps, the least discouraging, but it scarcely acts sufficiently with most dogs; and, if a heavy fall is sustained, the neck may be broken by the shock. If the puppy is not inclined to hunt, let him be put on the scent of pheasants when just off the feed, and let him rout them about well for a few minutes; this is not often to be done without injury to the preserve, but it may be occasionally ventured on after the young birds are able to fly, as the dog soon causes them to get into the trees, leaving a strong scent behind. Spaniels should be made to drop to the gun and to the hand very strictly; and this may be taught by the pistol; but it must be enforced on all occasions when game is before them. A retriever is very useful, as it is very difficult to prevent the whole train of spaniels from bringing game, if any one is allowed to do so; but they soon learn to "down charge" strictly, and then the retriever goes to the dead bird, and retrieves it for his master.

In first entering young spaniels to hunting the hedgerows, if the breaker is out alone, they should not be allowed to go through to the other side, but should be kept carefully on the same side as the shooter; afterwards, however, when they are accustomed to the range, and keep watchfully eyeing the sportsman, to see that he is within reach, they may be sent to the other side, and put to hunt everything out on the same side as the gun, which is always the most effectual mode with a single shooter. When the young spaniel is first put into a large wood, and is beyond the supervision of his master, he often ranges the entire covert, and does immense mischief to the sport, driving everything out of shot. He should be well loaded with shot, or one of his legs taken up, and put to hunt with two couple of steady old dogs, even if he is so confined as to do nothing. He will soon learn to imitate his fellows, when he sees them pay all attention to the gun, and when he finds that game falls to their hunting, whereas he has never yet succeeded in obtaining such a result. After a time, his leg may be set at liberty, and he may probably take to his work kindly enough, and refuse to leave the other dogs far. He will not probably do much good, as this work requires great experience, but he will do little harm. It cannot be expected that the spaniel will learn his business in one season, and he is seldom perfect in two; but he will help to do the looking-on part, and will animate the old, stale, but steady and clever dogs, to increased exertions. Many sportsmen are constantly animating their spaniels, by cries of "Have at 'em!" "Cock! cock! cock!" &c. &c.; but this is perfectly useless, the slightest whistle being sufficient to indicate the whereabouts of the gun, and, more than this, interfering with the sport, because it shows the game what they have to avoid, and when to avoid it. If the spaniel is fond of his master, and accustomed to work for him, he is as much occupied in watching his motions as in seeking for game. These dogs have a very strong love of approbation; and very fortunately this is so, because they are so much more beyond the master's control than the pointer or setter.

Mode of using Spaniels in Large Coverts.—Unlike grouse and partridge-shooting, the early morning is as good a time as any for pheasant-shooting; and most ardent sportsmen of the old school select that time, especially if they mean to beat the hedgerows, which they can do as the birds are returning from their feed,

after which they should follow them into covert, and, with a wave of the hand, order in the spaniels, with "Have at"—pronounced "Haave aat"—which should only be used just at first by way of encouragement. After this—keeping them carefully near him—the shooter should watch for a whimper, and press rapidly forward to that dog; as soon as he gets to him, the little creature is sure to push on, and will, if of a good nose, soon either undeceive him by silence, or drive up a pheasant or cock. The great point is to rush well forward, as far as possible in front of the dog throwing his tongue, wherever he may be, and being regardless of thorns or brambles. Nothing can be effected without this rush, as pheasants will run for many yards before dogs, if not rapidly pushed, and will generally get up far out of shot, or so protected by the trees, as to be defended by them from your gun. Little, light men have, consequently, a worse chance at this sport than strong and tall ones, who are able to raise their arms and guns above the underwood, and carry all before them. It is seldom that a pheasant can be marked into another part of the same covert; and, indeed, if it is so, the bird seldom remains near where he alighted, but runs a long distance, and then lies quietly in the thickest and most impenetrable part. If this sport is to be followed with much success, the spaniels must be broken from "fur," both in the form of hares and rabbits, as they will, otherwise, neglect the pheasants, and take to the four-footed game. This can only be done with spaniels whose breed is very pure, and free from the stain of the beagle, which so many of our old spaniels are crossed with. The Clumber breed, when pure, is said to disregard hares and rabbits, until thoroughly entered to them, and always to prefer "feather" to "fur." This, however, I never saw; nor did I ever witness the hunting of a thoroughly-broken team of any spaniels. I have seen a few good ones in my life, but never a perfect team at work. For this reason, perhaps, I never saw so much to admire in covert-shooting as in partridge or grouse-shooting.

Sect. 4.—Various kinds of Pheasant-Shooting.

In hedgerows and spinnies, as pheasants have a strong scent, both body and ground, they may readily be found by the setter or pointer; but they are so carefully driven by the keeper every night and morning into the coverts after feeding, that it is, generally, out of the question attempting to shoot them anywhere but in these secure retreats. In former days, good sport was often afforded by spaniels in hedgerows, or by a steady old pointer; and even now, in certain situations, near preserves, where the keepers have not the right of driving them, *and where this right is carefully watched*, a good hour's sport may often be obtained. The shooter should begin near their covert, as soon as the pheasants are running back to it, which they generally do up the dry ditches, or under the hedges, if the former are wet or absent, immediately after feeding. By thus intercepting them, they are obliged to rise, if the dogs are worked down the hedgerows away from covert, and there is a gun on each side the hedge. It often happens that there is a brook or river intervening between the corn-fields and the covert; here the pheasants *must* rise to return; and if they are in the habit of crossing it to their feed, the shooter should station himself near the brook, and send his spaniels to begin at the other end of the fence, and drive towards him. The pheasants are sure to run till they know they must rise, which they do about thirty or forty yards from the edge of the brook, in order to get well over it; and at this point they may be met and knocked over, taking care to have a good water-retriever, in case they fall into the brook. In many situations, also, there is a chain of small plantations, where the pheasants breed in preference to large woods, and which the keepers soon drive them from, if permitted to do so. Here they may be shot readily in the early part of October, by sending in the spaniels, and posting two guns on each side of the end towards which they are to be driven, and two others walking on each side the plantation parallel with the dogs. A man or two, however, should accompany the dogs, and beat steadily through the whole length of the plantation, to prevent the pheasants running back. This kind of sport is generally met with on farms where the game belongs to the tenant, and where the pheasants are preserved with some little care, from the end of hatching to the middle of October; by which time they are all either shot or driven to the neighbouring strictly-preserved large woods, from whence the old hens originally came. It must be remembered, that pheasants are polygamous birds, and the hen only is concerned in the care of the young. She is ready enough to remain with the rest of her sex in the

harem of her lord and master, till she is obliged to prepare her nest, at which time she is looking out for solitude, and prefers a quiet little spinney or plantation all to herself, even though in the midst of cultivated land, to sharing the secluded wood with her rivals, of whose jealousy she is afraid for her brood, though not for herself.

WILD PHEASANT-SHOOTING.—Again, in large woodlands, which are either wholly unpreserved, or not carefully preserved, an occasional pheasant may be met with in the course of a day's cock-shooting; but these are exceptions now-a-days, and cannot often be calculated upon with sufficient certainty to warrant a man in going out for pheasants alone.

THE BATTUE.—It is for the purpose of the *battue* that pheasants are now reserved and preserved with all the formidable retinue of head-keepers, under-keepers, day-watchers, and night-watchers. None but men of large means, and in possession of extensive coverts, can indulge in this amusement, except by the invitation of those who have at their command these pleasant auxiliaries to sport; but in this instance power has been abused, and instead of promoting sport, it has totally destroyed it. No one can deny the fitness of the pheasant for affording gratification to the good sportsman, if the bird is fairly found, put up, and shot; but as well might "mobbing" a fox be called fox-hunting, as a *battue* be considered genuine pheasant-shooting; and this I will endeavour to show in the following description of this amusement:—In the *battue*, nothing short of hundreds, or, if possible, thousands, of killed, to say nothing of wounded, will constitute a successful day. The pseudo-sportsman, who should be tempted from his fireside and his *Times* after breakfast by anything short of five brace an hour to his gun, would be strongly inclined to complain, and would think, if he did not say, that his presence had been obtained under false pretences. The mode usually adopted is as follows:—First, gather together eight or ten crack shots, who may, many of them, be in wheeled-chairs, or on shooting-ponies, but should be capable of killing, without spoiling, this beautiful bird; then, having breakfasted the party, proceed to post them at certain stations where the game must cross a piece of open ground commanded by the shooters' guns. Thus, in wide coverts, the guns are arranged along the edges of the open springs, at about 40 or 50 yards apart, so as to command every head of game which passes, whether pheasant or hare, or sometimes rabbits, &c., each shooter having two or three guns, and a man to load them, for even now, when breech-loaders are indispensable, one gun would become too hot for use. As soon as these are posted, the beaters are sent to the other end of the portion of wood which is to be driven, and they proceed to drive the game through it, often with the aid of a steady dog or two, but as often without any such assistance. For some time, nothing is heard but the men calling to each other to keep the line, or their taps on the trees, &c., which may be distinguished at a long distance; presently a hare canters quietly out of the edge of the covert, and, putting up her head to observe what is going on, is knocked over—as easy a shot as a farm-yard cock tied to a tree. Next, perhaps, a rabbit shares the same fate; she, however, seldom waits to look about her, but goes at a flying pace, and is a fair mark for a good shot. By-and-by, another and another shot is heard, with the squeal of a hare or two following them; then the beaters may be distinguished approaching, and their blows and cries are very loud and audible. The shooters are now collected to the spot to which all the beaters congregate, termed *the bouquet*. Here expectation is on tiptoe, every moment being the one at which the slaughter is supposed to be about to begin; suddenly a loud "whirr-r-r" is heard, followed by the peculiar "cock-cock-cock-cockle" of the cock-pheasant, of which some one, two, or three rise from the edge of the high wood, to be as certainly brought down; as fast as one falls, another shares his fate, and in ten minutes, or less, the ground is covered with the slain. In many instances, low nets are fixed along the edge of the old wood, which compel the pheasants to get off their legs and rise, as they are so very tame, and so much inclined to run, as to escape in that way without the nets. In this manner, the whole of the pheasants in a portion of wood, or a great part of them, that is, all those which have neither doubled back nor escaped the guns, are brought to bag, and the keeper's retrievers are set to work, to recover those which are not artistically disposed of. As soon as this part of the work is accomplished, another portion of wood is driven in a similar way; and this is again repeated, till the whole of the preserves are exhausted, or till the sporting (!) propensities of the guests are fully gratified. Now, it will be observed, that in this description, nothing has been said of finding the game, or of the use of the in-

stinct of the dog, or of the gratification of the desire for exercise, or even of the benefits derived from it; on the contrary, the admirers of this sport are generally wholly ignorant of the art of finding game, or of the hunting of the dogs, or unwilling or incapable of using their legs; they only long for blood—which may really be said to form the positive, comparative, and superlative degrees of their ideas on the subject. There may be some excuse for the boy feeling gratification and pride in obtaining the mastery over a fine pheasant by this kind of butchery; but I never could see the grounds for these feelings in a full-grown man, with all his faculties about him. For a gouty valetudinarian also, who still clings to his old associations, I can find some excuse; but these form only a small proportion of those who habitually delight in the *battue*; however, we have no right to complain of the taste of others, especially when the gratification of that taste is not within our reach on every occasion. The appetite for money no doubt increases by its gratification, and I suppose the same must take place in the votaries of the *battue*, as nothing else will account for the extraordinary lengths to which it is carried. When the covert is of such a nature as to prevent the posting of the shooters in the spring falls, portions of it are divided off by long nets, and the game is driven towards the open fields, in the same way as I have before described; but here every bird that escapes is liable to be lost, as it flies clear away, and if it has no secure retreat within the same preserve, is almost certain to fall a victim to some expectant gun; good shots are therefore at a premium in such a kind of wood, and few bad ones find themselves included in the invitations. It sometimes happens that the nets are evaded, by the birds hopping over them; but these are exceptions, and the great majority never attempt to pass them, after finding themselves stopped from running by them. A net a yard high is quite sufficient; but even if they have run the gauntlet of half a dozen nets, they get caught at last in the final corner, where they are surrounded on all sides by the beaters, and compelled to face the redoubtable phalanx awaiting them. I have been repeatedly tempted to partake of this amusement, but I never felt otherwise than ashamed of myself during its continuance; and I would desire nothing more than to stir up the same feeling in the breasts of others, before they have been tempted to try its effect upon themselves.

Excuse for the Battue.—The excuse made for this abuse of sport is, that where pheasants are thick, no one gun, or even two or three, can pursue them in the old sportsmanlike way without losing a great many, which are driven off into an enemy's country. Now, this I admit fully. It *is* impossible to enter a covert abounding with pheasants, and hunt them with spaniels, without nine-tenths of the birds running off out of shot, and escaping to a distance; and if pheasants are wanted for the table, and must be killed for it, and, by consequence, must also be reared and preserved for it, then kill them in this way; but let paid hands do the butchery, and do not gloat over your victims, and dignify their slaughter with the name of sport. Domestic poultry must be reared, and killed; but who would admit the pleasure of wringing their necks, or cutting their throats? Yet where lies the difference? The pheasant is not even a difficult shot. On first rising from covert, his flight is slow and hurried, though when in full swing, it is often fast enough; but the shots presented in a *battue* are almost always easy ones, and the practice afforded is so great, that those who indulge in them are almost sure of their mark. The only excuse I could ever make for myself or others who have partaken of the *battue*, is, that as it is a rare and expensive amusement, people are apt to value it by the general estimate—namely, its cost. Every one knows that pheasant-preserving causes a most extravagant outlay, and he also knows that he cannot indulge in the sport many times a year. This may perhaps account for the high rate at which it is estimated, but is only a lame apology at the best.

Sect. 5.—Dress and Gun.

The sportsman should be well protected with velveteen or fustian jacket and trousers; and he should have a strong cap, with a good projecting peak or poke to it, which will save his eyes from the thorns and brambles. His gun, also, should be a short breech-loader, not exceeding twenty-eight inches in length of barrel; and, in fact, two inches less, if a good one of that length can be procured. For first-rate *battues* a pair of breech-loaders, with a man to load, are indispensable.

Sect. 6.—The Woodcock.

The Woodcock (*Scolopax Rusticola*) is a native of the north of Europe and Asia. It is rarely known to breed in Great Britain, but visits this country in the winter, arriv-

ing in the beginning of October, and leaving in March or April. After its first arrival, it is always confined to the thickest and most impenetrable covers by day; but at night, and very early in the morning, it visits the swamps and meadows, in search of the worms upon which it feeds. When it breeds here, its nest consists of a loose mass of leaves and grass, placed in some sheltered bank far from the prying eyes of children. It lays three or four eggs, of a yellowish-brown, blotched with brown of a darker colour, and mixed with grey. In length, it is about 14 inches, and 25 from tip to tip. Its weight is about 12 to 13 ounces; the head is of an obtusely-triangular shape, and the eyes are placed very near the top of the ears. The upper mandible measures about three inches in length, and is furrowed nearly the whole length. Its tip projects beyond the under one, which it overlaps, forming a kind of knob, and this is endowed with an extreme degree of sensitiveness, by which the bird is enabled to discover the insects it is in search of in the mud. The woodcock is essentially a nocturnal bird, and its eyes, like all of that class, are large, full, and dark. While other birds are alive and doing, these are asleep under some bush, concealed by thorns or evergreens; and it is only when aroused by the dogs that they fly up and endeavour to reach a more secure place of concealment. Several varieties of this bird visit our shores, and this most probably arises from their migrating to us from such an extensive range of country. Dr. Latham makes out three distinct varieties; but as one of his has a white head, it is most probable that it was only an accidental pye colour, and not a distinct and continued variety. It may, however, be asserted pretty generally, that the first comers are fuller, fatter, and duller than the November cocks, which are nimble and active, easily rising high above the underwood, and being, consequently, difficult to kill. The male is scarcely distinguishable from the female by the feathers or form, the only distinction being, according to Pennant, a narrow stripe of white on the exterior web of the feather in the female, which same part is spotted with black and white in the male. Every epicure is familiar with the flavour of the woodcock, and with its mode of dressing without being drawn.

PRINCIPAL LOCALITIES OF THE WOODCOCK.—These birds are never, or very rarely, seen to arrive on the coast; which is not so much to be wondered at, since they are, in other respects, nocturnal. They generally come over with a light easterly or south-easterly breeze, but are often caught in their passage by an adverse current, and are then much exhausted, so as to be almost unable to rise for some time after landing. At this time they may be found in the ditches near the shore, and will submit almost to be killed with a stick or a stone. They soon pass inland, and even cross over to Ireland in great numbers, though a great many also reach that country direct from France and Spain. Large quantities of woodcocks are taken by traps and nets, chiefly on the coasts of Devonshire, Dorsetshire, Hampshire, and Sussex, from which counties they are sent up in great numbers to the London markets, and to the great provincial towns. In Wales and Scotland —particularly its western coast—they are also taken in the same way, to a great extent, and these supply the Bath and Bristol, and the Edinburgh and Glasgow markets. Indeed, it is seldom that a shot woodcock is sold in the shops, for the bird is so easily torn and disfigured by the gun, that the netted one is vastly preferred, and therefore the poacher commands the market.

SECT. 7.—DOGS USED FOR COCK-SHOOTING.

These are the same as those recommended for finding the pheasant; but the setter is here wholly useless, as the haunts of the cock are inaccessible to so large a dog. The Sussex spaniel is the best I have ever seen, being hardy, and capable of bearing wet with impunity. His nose is also wonderfully good, which its full development, in point of size, would lead one to expect. They are bred so much for hunting cocks that they own the scent very easily, and seem to delight and revel in it, giving generally a very joyous note on touching upon their trail. The true Sussex may easily be kept strictly to feather, and though they will readily hunt fur when nothing else is to be had, they do not prefer it, as most other dogs do.

NUMBER OF DOGS USED in this sport should be at least 2½ or 3 couple, as the coverts are generally large and very thick; but I should always prefer hunting two couple at a time, and giving the other couple an hour's rest—thus, always having one couple fresh and one tired at work together.

SECT. 8.—COCK-SHOOTING.

THE MODE OF USING THESE DOGS IN COCK-SHOOTING is very similar to that adopted in *wild* pheasant-shooting, except that different localities are visited by the

two kinds of birds—the pheasants keeping as much as possible to the dry and sound parts, and to those which are tolerably open, whilst the cocks select the neighbourhood of moist low ground, though they do not choose the actual swamp for roosting. For this purpose they prefer the shelter of thick bushes, and low evergreens when they can find them; for, though they frequent wet and marshy ground for feeding, they are particularly addicted to protected roosting-places, such as holly and juniper bushes, or even laurel or lauristinus, when planted in the midst of water, as in ornamental islands, &c. During long frosts the inland springs are frozen, and the cocks are compelled to leave them and seek the salt marshes, where the springs are seldom quite hard; but in very severe winters even here their food is sometimes frost-bound, and great numbers of woodcocks are starved to death, as in the winter of 1838–9, and in that of 1854–5. Woodcocks, generally, take the same line of flight in going to feed as is the case with nearly all migratory birds; and in flying, even from one covert to another, they may always be seen to take the same ride or break in the trees. In beating large coverts this is very conspicuous, as there are always certain spots where cocks are shot, if any are to be met with. Knowing old hands take advantage of this, and station themselves there to await their crossing. Beaters are very useful to assist the dogs in this kind of shooting; but the grand requisite is a set of good markers, because the cocks can seldom be shot the first time they are put up, and do not run like the pheasant after they alight. Many good sportsmen place two or three *good* markers in the highest trees, on the opposite side of a large covert to that which is to be first entered; then, going in themselves, they get what shots they can, by pushing up rapidly to the dogs, as in pheasant-shooting; and as soon as they reach the other side, they are guided to the points where all the disturbed cocks have dropped, which a good marker can point out by the trees which he has marked and knows. Here they will always be found by careful hunting, and may then, generally, be flushed and shot at, if not bagged. In high bare-stemmed larch or fir coverts, these birds are more easily shot as they rise above the low underwood, and before they reach the branches of the trees; but, in lower oak or beech woods, they must be watched for in the openings, and snapped at in a moment, or all chance is lost. Woodcocks, when disturbed by the dogs, often settle just outside the coverts, which the markers can readily see, and here they can easily be got at and shot with facility. They generally go straight away from the gun till they near the bushes, when they shoot and twist in a manner which makes them very difficult to kill at that moment. Each successive time they are disturbed they lie closer than before, but when put up their flight is more rapid and snipe-like, in proportion to the frequency of their disturbances. If, therefore, the middling shot misses a good opening the first or second time, he seldom replenishes his bag, in the subsequent ones, at the same bird; and, in this way, I have known six or seven shots fired at one cock on the same day, without ultimate success, though afterwards another bird has immediately fallen to the same gun.

This variety and uncertainty give great interest to the sport; and it certainly deserves all the encomiums which have been passed upon it. The irregular flight of the bird; his mode of flapping his wings, peculiar to himself; the way in which he shoots right or left, after a slow and smooth flight—changing from that of a tame owl to the velocity of the hawk—all conspire to give interest to his pursuit. Sometimes you may hear him and see him with facility; at others you hear him, but cannot catch even a glimpse of the bird; whilst again you hear and see him for a moment, then lose sight, and finally obtain such a view as to be able to account for him to your own satisfaction, if not his. But it is chiefly in wild, rocky districts that this bird can be pursued with every advantage; in fact, in those only where open spaces alternate with thick clumps of low bushes. Here he may generally be hunted with spaniels to great advantage, and, indeed, their presence is essential to the sport, as no man can penetrate the thick clumps of holly and juniper which abound in some parts of Wales and Scotland. No bird is so often missed, because every one who can get a shot is sure to snap at him with the chance of a stray shot telling; whereas, in the pursuit of partridge, grouse, or pheasant, the shooter does not put his gun up without a fair chance, knowing that, if he does not get a shot at them to-day, he will, or may, next week. The woodcock, also, is so very deceiving in his flight—beginning often so heavily, and then, again, all at once shooting off at a tangent—that it is no wonder that good shots even miss him. No one likes to maul a woodcock to pieces, by firing at a few yards' distance, which might often be done when he first gets up; the shooter,

therefore, in great anxiety to obtain the prize, waits till he is at a fair distance, and then is suddenly surprised to see him begin to shoot round some shrubs, which he fancied too low to interfere. His much-coveted prize is this time secure; but he follows him up, and, after much trouble, gets a good shot, and perhaps drops upon another or two in finding this one. Such are the glorious uncertainties of woodcock-shooting. No bird lies closer than a cock, and in some situations, when they are not much disturbed, the spaniels will actually rout them out with their noses, and chop them even occasionally; but this is not often the case, as the bird is very nimble in evading the jaws of his enemy. In order to hunt them well in thick coverts, the spaniels ought to have their master with them, as they require every encouragement to make them penetrate the tangled masses of underwood frequented by the cocks; if, therefore, the keeper is accustomed to them, by all means let him hunt them; but if not, the master must undertake that duty, even if he loses a few shots by so doing. I have said that, in all cases, if a spaniel is on the trail of a cock, the shooter should get to him as quickly as possible; but if he is hunting with the wind, and *there is enough of it* to be plainly felt in covert, the bird is almost sure to come up wind into the shooter's face; and he had therefore better remain quiet in as open a spot as he can pick, and catch his bird as he comes. Woodcocks killed dead sometimes fall at some distance, and are very difficult to find, as few retrievers can hit off the body-scent of a dead cock, which has not run at all. In this kind of retrieving, the sagacity of the Newfoundland comes into advantageous play, as they seem to mark the spot where the bird fell with great accuracy, and find it by eye rather than by nose.

Sect. 9.—The Dress and Gun.

The shooting habiliments should be the same as in pheasant-shooting, except that as the ground is generally more or less swampy in places, the boots should be carefully dressed with the waterproof composition. Snipe-boots would soon be destroyed by the thorns and briers, and are therefore out of the question, besides being too cumbrous for this active exercise. The gun is exactly the same as for the pheasant.

Sect. 10.—Hare and Rabbit-Shooting.

The Hare (*Lepus Timidus*) is usually shot in covert, except when preserved for coursing; but it is poor sport, as, while in covert, she never goes faster than a canter, and may be killed with certainty by any tyro. It can only be for the pot or for the purpose of increasing the list of the slain, that this game is shot. Besides, the killing hares when using spaniels spoils them for pheasant or cock-shooting, as they always own the scent of game which is killed to them.

Rabbit-Shooting is a different affair altogether from shooting hares, and affords, in my opinion, the very best sport in covert of all, excepting only wild pheasant and woodcock-shooting. This of course has reference to the hunting them with dogs, and the shooting while going at their best pace, which is undoubtedly a racing one. Rabbits breed in warrens, in hedgerows, and in covert, and multiply very fast indeed. There are said to be several distinct varieties; but I believe there is no truth in the assertion, the kind of food only causing a *temporary* difference, and not permanently causing a distinct variety. Warren-rabbits removed to a covert, and there allowed to breed, soon attain the same character as the prior denizens of the same locality. The sport of shooting rabbits is never carried on in the warrens, because the warrener does not wish his property wasted, and prefers trapping them, for obvious reasons—one being, that the wounded rabbits often escape into the holes and die out of reach. In hedgerows, they may be hunted with spaniels or terriers, and shot as they come out; but they generally have holes in the banks, and then soon reach them in safety. When driven to their fastnesses, the ferret is the only resource; and these animals, after being muzzled, soon drive them either to the gun or into bag-nets placed over the holes. But it is to the covert-shooting of rabbits that I wish to draw attention, that being the only kind of rabbit-shooting which is to be considered worthy the attention of the true sportsman, and which, I have already remarked, is really worth it. Rabbits are now much encouraged in large pheasant preserves, partly for the sake of the keepers, whose perquisite they are, but chiefly because they afford food for the foxes preserved for fox-hunting, which would otherwise prey upon the pheasants. The keeper feed his foxes when young regularly upon rabbits wounded and left near their earths; and, consequently, these rabbit-fed animals keep to the same fare, and are thus prevented from interfering with the pleasures of the *battue*. The keeper continues to shoot a few outlying rabbits round the covert, and those which are thus

wounded suffice to keep up the supply for the foxes in addition to those which the keeper may purposely leave for him, or the fox may himself succeed in laying hold of. When the pheasant-season is over, and the foxes also have been thinned, it will be found that the rabbits must be kept down on account of the young crops, which they begin to bite off most cruelly. In February and March, therefore, good sport is usually afforded by this thinning of the rabbits, several hundred couple being often killed in a single preserve. At this time a great number of rabbits lie above ground, preparing for their young, or driven to seek the pleasures of love, or from other causes, of which we, in our ignorance of their language, have not yet fathomed the motive. However, there they are; and in the spring-falls of a large wood they may be found lying in tussocks of grass, or in little bushes. For these the vermin-terriers of the keepers are the best dogs, as they hunt them very quietly, yet strongly, and your regular springers or cockers would be utterly spoilt for pheasant or cock if allowed to hunt rabbit. By sending the keeper and his terriers into the wood, the rabbits are driven across the drive, where the guns should be posted at sixty yards' distance from one another; or, if the spring-falls are quite open, they may walk then in line. As the rabbits are put up, they cut in and out of the rides or runs, and require great quickness of eye to catch them before they are lost to sight. The guns must be carried on the shoulder, full-cocked; and great care must be taken not to shoot the terriers as they are hunting close upon the scent of the rabbit. I once shot a very valuable dog in this way, with the rabbit actually in his mouth. This was as the rabbit was coming out of a bush, and the dog so close upon her, that, as she sprang through, the terrier did the same, and received my charge in her breast, killing both dog and rabbit. It is needful to shoot well before the rabbit, as they run so quickly by you, that if you do not take this precaution you are sure to shoot behind them. The knack is easily acquired by a quick eye and hand, but a slow man had better not attempt what he will be certain to fail in. In shooting rabbits, Colonel Hawker advises the sportsman to get into a tree, but this can scarcely be called sport, though something of a piece with some kinds of wildfowl-shooting. I should only advise pot-hunters or boys to resort to such an unfair advantage. If, however, they are to be *destroyed* as injurious to the farmer, the plan is, no doubt, a good one; but for this purpose the use of the ferret is far the best resource.

Sect. 11.—Expenses of Covert-Shooting.

The cost of rearing and preserving pheasants is enormous, usually reaching from half a guinea to a guinea a head for each bird bagged. Woodcocks, being birds of passage, are not capable of being preserved, except during their short stay, when they require intruders to be prevented shooting or trapping them. Hares also require strong watching, and are even more liable to the attacks of poachers than pheasants; but as they are generally preserved with those birds, and are considered subsidiary to them, their extra cost is seldom brought into the calculation.

CHAPTER VIII.

RIVER AND POND-SHOOTING.

Sect. 1.—Birds found on Rivers and Ponds.

Here we have little opportunity for the skill of the sportsman to display itself, and the pretensions of this kind of sport are not such as to meet with the approbation of such a glutton at the gun as Col. Hawker. Still, many sportsmen prefer it to the punt-shooting so much lauded by that ardent admirer of its peculiar advantages. I shall first enumerate the birds which are met with, and then detail the best modes of shooting them on the rivers, ponds, and small lakes of this country. Some of them, as the ducks, teal, and wigeon, are also shot from the punt; but as they are to be met with in large quantities in rivers and ponds, I shall include them under both kinds of sport. At the head of this list stands

The Mallard, or Wild-Duck (*Anas Boschas*).—This is said to be the parent of our domestic duck, one variety of which it resembles in colour, though somewhat less in size, and having dark legs and

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toes. Some few ducks breed in this country, but the vast flocks which frequent our coasts and internal waters are migratory birds, and are only here in the winter season. When breeding in Britain, they make their nest in some quiet hedgerow, or high bank, near the river or brook, and lay 15 to 18 eggs of a greenish colour. The young wild-ducks are diligently sought for just when they are becoming fledged, and are scarcely able to make use of their wings, in which stage they are called "flappers."

WIGEON (*Mareca Penelope*) are next in size to the wild-duck. They seldom are found far inland, therefore they afford better sport to the puntsman than to the river-shooter; they are, however, very good eating, and will reward the sportsman for his trouble if they are shot on the internal waters. In the adult male, the length is about 18 inches; bill, brown-black; iris, brown; top of the head, white; cheeks, and back of the head, chestnut-red; back, greyish-white, with irregular lines of black; tail pointed, and nearly black; wing-coverts, white, tipped with black; a green speculum, edged with black, on the outer webs of the secondary wing-feathers; chin and front of neck, black; lower part of neck, pale reddish-brown; breast, belly, and vent, white; legs and feet, dark-brown. The old male birds, to a great extent, assume the feathers of the female in July, and continue so till the autumnal moult. In the female, the length is about 16½ inches, and the following points of difference occur: head and neck, reddish-brown, speckled with darker brown; back, of two shades of brown in each feather. The young male birds resemble the females.

THE PINTAILED DUCK (*Dafila Acuta*) is also occasionally found on our internal waters, and is one of the first taken in the decoys in October. Its flight is very rapid. No duck is better for the table, the flavour being excellent. In July the male assumes the same plumage as the female, but recovers his masculine colours in the autumnal moult. The length of tail will always serve to distinguish this duck from the wigeon, whose plumage it resembles in other respects.

THE POCHARD or DUNBIRD (*Nyroca Ferina*) receives its second name from the peculiar colour of the eye. It is a winter visitor to this country, appearing in October, and leaving in the spring. It resorts to inland waters as well as the sea-shore, and is a very shy and wary bird. It is of a very good flavour, and highly esteemed for the table, resembling the famous canvas-backed duck of the United States, though but a humble imitation, in my opinion. The length of this duck is 19½ inches. The male has a pale-blue bill, with a black point and base; iris, red; head and upper part of neck, rich chestnut; lower part of neck and upper part of breast, deep black; back, of a freckled-grey; rump and upper tail coverts, black; tail, greyish-brown; lower breast and belly, grey; legs and toes, bluish-grey. The female has the bill all black; iris, brown; head and neck, dusky-brown; lower part of neck and breast, dark-brown.

THE TEAL (*Querquedula Crecca*) is the smallest of our ducks, and one of the richest in flavour; it is, therefore, much sought after by the sportsman who regards his stomach, or those of his friends. It frequently breeds in Great Britain, especially among the lakes of Westmoreland. Its flight is very rapid, and it affords an excellent mark to the skilful shot. From this circumstance it is still better suited to single shots than to the large punt-gun. Like all the duck tribe, it feeds by night. The female lays only seven or eight eggs, of a whitish colour. In the adult male, the length is 14½ inches; the bill is black; eyes, hazel; forehead, and band extending backwards, chestnut-brown; a narrow line of buff from the gape to the occiput, over the eye, and also from under the eye to the lower part of ear coverts—between these two lines a spot of rich green; cheeks, and remainder of the side of the neck, chestnut; back of neck and back transversely lined with black and white; wings, brown, in various shades—a speculum on the secondaries, of velvety-black, green and purple, tipped with white; tail, pointed, dark-brown; chin, black; front of neck, chestnut above, with spots of black on a white ground below; legs and toes, brownish-grey. Like the wigeon, the male birds lose their distinguishing feathers in July. The female has the whole of the head speckled with dark-brown; back, dark-brown, mixed on each feather with lighter brown; wing, like the male; chin, pale-brown; lower part of neck has crescentic brown marks, instead of spots of black; sides and belly, dull white, spotted with dark-brown.

THE BALD COOT (*Fulica Atra*) is a bird well-known throughout England, being a permanent resident in the ponds of the ornamental grounds of our aristocracy. It weighs about 28 ounces. In colour it is a deep black, excepting the outer edges of the wings, and a spot under each eye, which are white; under parts of a dirty lead-

colour. The nest is a huge mass of rushes, &c., quite on the water's edge; and it lays eight or nine greenish-white eggs.

The Greater Coot is only a larger variety of the preceding, which it resembles all other respects. The coots are often shot on our ponds, and by some are preserved expressly for that purpose. Colonel Hawker maintains, that they are not to be considered as worth powder and shot in fresh water, because they cannot then be slaughtered in sufficient numbers; but I confess I cannot see the force of his reasoning, though he has obtained such an undisputed empire over this species of sport, that it requires some courage to throw doubt on his dictum. Still, it appears to me, that there is quite as much sport in killing one bird with an ounce of shot, as in killing 20 with 20 ounces. Nothing surprises me more than the inconsistencies of sport. In one kind (as for instance, partridge and grouse-shooting), it is considered as the highest degree of pot-hunting, to shoot into the middle of a covey or pack; whilst in another (the shooting of wildfowl), the sportsman is told that one bird is not worth his notice, and that he must wait quietly till he can catch a whole lot of them within the deadly circle of his fire. How is the young sportsman to reconcile these incongruities? The only answer is like that so often given by English grammarians—"there is no invariable rule, but each kind is governed by its own laws." What is right at Poole or Southampton, is entirely wrong on the stubbles of Norfolk, or the moors of Scotland. The coot is a very difficult bird to flush, as it keeps among the reeds and rushes, diving at the approach of the dog. By following these birds up with a good dog, they may sometimes be made to rise, and then afford an easy shot.

The Moorhen, or Gallinule (*Gallinula Chloropus*), is very commonly met with in our rivers and ponds. Here it swims gracefully, searching for aquatic insects, and nodding its head at every instant. It dives remarkably well and quickly, and remains in the reeds with only its beak above the water. On account of its diving so rapidly, it is rarely bagged without the aid of a dog, as it does not rise to the surface if death takes place after the dive. On land it runs rapidly, cocking up the feathers of its tail, which are white beneath, and seeking the secure retreats afforded by the water as rapidly as possible. Its nest is built among the sedge, and it lays seven or eight eggs, of a yellow colour, with brown spots. The young birds appear only like a brownish-black mass of fur or down, and swim about in the most lively manner. In the male, the beak is yellowish-green, with a red base; on the forehead is a naked patch of red; iris, hazel; back, wings, rump, and tail, dark olive-brown; head, neck, breast, and sides, dark-slate; belly and vent, greyish-white; above tarsus, a ring of red; legs and toes, green.

The Water-Rail (*Rallus Aquaticus*) resembles the moorhen in general figure, though differing in colour, which is more like the land-rail. The back is spotted or speckled-brown; cheeks, chin, sides, and front of neck and breast, lead-grey; vent, buff-colour; legs and toes, brownish-red; length, 11½ inches.

The Grebes (*Podiceps Cristatus*, *P. Auritus*, and *P. Minor*) are like the moorhens in diving powers, and resemble them much in habits. All the grebes feed upon fish and water-insects. The lesser grebe is also called the *Dabchick*. It is a very timid bird, and disappears by diving on the slightest alarm. It is easily domesticated on our ornamental waters, and dives and comes up again, over and over again, as if for the amusement of the spectators.

Three varieties of the sandpiper frequent our rivers, of which the summer snipe, or common sandpiper, is the most familiar. They are—

The Green Sandpiper (*Totanus Ochropus*), of whose habits very little is known. They are very common in spring and autumn, and frequent the banks of brooks and inland rivers. They feed on worms and insects; and they have a shrill note, of a whistling character. Beak, greenish-black; iris, hazel—as in the snipes, a line from it to the eye; white mark over the eye; back parts of head, neck and body, dusky-green; primaries, dusky-black; tail-coverts and feathers, white. The outside tail-feather has one dark spot on the outer web; the next, two spots; and the third and fourth, two black bands; the others also have several bars. Under parts of the body white; throat, streaked with dusky lines; legs and toes, greenish-black. Length, 9½ inches.

The Wood Sandpiper (*Totanus Glareola*) resembles the preceding in habits and general appearance, but differs in being somewhat smaller, the length being only 9 inches. Iris, dusky-brown; tail feathers with six or more narrow transverse white bars, on a ground of greenish black; legs and toes, olive green.

The Summer Snipe, or Common Sandpiper (*Tringoides Hypoleuca*), is found very generally on all our rivers, lakes, and

canals, where it breeds on the banks. It is mostly seen running along the gravelly edges in search of its food, which is composed of insects and worms. It utters a peculiarly sharp note when disturbed. Beak, dark-brown, with a yellowish base; iris, dark-brown; dark streak from beak to the eye; upper part of body greenish-brown; four middle tail feathers greenish-brown, with a blackish stripe across the centre, and all barred with black—four outer ones tipped with white; primaries almost black, with a greyish patch on all but the first; all the under parts of a pure white; legs and toes, dark-green.

Such is a list of the birds chiefly frequenting our ponds and rivers. Occasionally others are met with, but those I have enumerated form the bulk of the number.

Sect. 2.—Best Dog for River-Shooting.

The Best Dog for hunting these birds in the brooks is the old English or Irish water-spaniel; but a good rough fox-terrier will answer very nearly as well. The former will be found under the general description of the dog; but his specific education had better be here introduced.

Breaking the Water-Spaniel or Retriever.—As these dogs are required for punt-shooting, as well as river-hunting, and as their education is better commenced on the river-side than in the punt, it will be well to enter in detail into their education here. Nothing answers better for this purpose than the shooting of "flappers," which usually comes on in July and August. The water being then warm, and the young birds awkward, and not very good divers, great encouragement to persevere is afforded to the dog, and he may be easily induced to swim more or less for hours, and to hunt the side of a brook in the most ardent manner. There is very little difficulty in entering these dogs to wildfowl, as they seem to have a natural bias that way; but they should be carefully broken from rats, which abound on the banks of rivers and ponds. The only art consists in confining their range, by making them beat to hand, and in persuading them to retrieve wounded or dead birds. The range is much more easily taught the water-spaniel than the land variety, because he is almost always in sight of the shooter, and always within the sound of his voice. If, therefore, the puppy has been taught to come in at the word "Back!" and to turn to the right and left on land, in obedience to the hand, as in ordinary spaniel-breaking, he will be sure to obey in the water, where he seems to ask for the directions of his master. The eye of the swimming dog is only able to command a small circle, being very little raised above the level of the water, and therefore it cannot see far from its nose; but by watching the hand of its master—for the voice should not be used more than necessary—it is often directed to the right spot, and afterwards is glad to claim the assistance which is found to be so useful. The water-retriever should be taught on land, like the land-retriever, to seek for gloves and young rabbits, &c., and to bring them uninjured to his master. After a time, he may be taught to bring a ball or glove from the water, which he does more readily even than on land, but is very apt at first to deposit it on the shore as soon as he reaches it, in order that he may shake himself clear of the water hanging to his coat. This should not be permitted, but the dog should always lay his burden actually at his master's feet, because sometimes, if not checked, he leaves it in such a situation as to cause great difficulty in reaching it. The *desiderata* in a water dog are—a liver colour, without white, black and white being alike conspicuous; an extraordinary nose, to make out waterfowl, whose scent is not remarkably strong; a strong woolly and oily coat, to resist the water. Here there is a very great difference, some dogs being able to remain in that element for hours, while others are rapidly exhausted, and this arises mainly from the cause above alluded to. He should bear cold as well as wet; and be thoroughly amenable to command, so that he will lie for any indefinite time without the slightest movement, waiting his master's order to hunt or retrieve. He should also be mute, as his tongue is never required, and would often disturb distant waterfowl. All these qualities are scarce, and should be highly prized when they are united in one, which they seldom are. The fault of the old liver-coloured water spaniel is, that he is too often headstrong and impetuous; while the Newfoundland is too bulky, and tires rather sooner than is desirable. His colour also is not so good as the spaniel's.

Sect. 3.—Duck-Guns and Accessories.

The Duck-Gun is a totally different tool from the ordinary fowling-piece, though for flappers, and some of the common sorts, the latter may suffice; but for the wilder varieties a more deadly weapon is required—and such is the long tube called a duck-gun. Colonel Hawker has established so thorough a control over the opinions of all sportsmen on the subject of wildfowl-

shooting, that I shall make no further apology for quoting from him on most occasions. No other amateur has had such a long experience in these matters, and it is only in those open to the common sense of every sportsman that I shall venture to differ from him. On land I think there are many whose opinions deserve as much weight as his; but on water he is undoubtedly the king of this species of sport. He strongly recommends a country maker in preference to a London one, and specifies Westley Richards, at Birmingham, Burnett, of Southampton, and Clayton, of Lymington, as the most likely to produce a good article in this particular line. Mr. Clayton seems to be the one to whom the wildfowl-shooter may most readily entrust his order, having worked for the colonel, and under his eye, for some years past. The colonel advises the following kind of implement:—It should weigh from 12 to 20 lbs.; should have a substantial stock, such as a fancy workman would be ashamed of; it should be made so large at the breech, that neat gunmakers would laugh at it; the stock should rise well up to the eye, because you have not the power to lower your head when holding out a heavy weight; and, above all, the barrel, should *lie level*, and *well up to the eye*, instead of being let down into the stock so as to pitch under the mark in quick firing. A duck-gun should have either no heel-plate at all, or one of a metal which will not rust from loading in a wet place. The advantage of a duck-gun is, that it will carry large shot more compactly, and may be fired with double or treble the charge for a piece of the ordinary size. You are therefore enabled to use large shot with the same advantage that No. 7 may be fired from a double gun; by which means at a large object, you may kill considerably farther, and, in a flock, many more birds at a shot. The recoil of a duck-gun can only be checked by weight of metal; and there are two ways to dispose of it; the one, by immense thickness, whereby the gun may be short, portable, and easily managed; and the other, by increasing the length, by which you may kill farther, and take more accurate aim. The former was the plan of Mr. Joseph Manton, the latter that of the late Mr. D. Egg; and, in order to partake a little of both advantages, I should steer between the two, and have barrels never less than 3 feet 8 inches, nor more than 4 feet 4 inches, unless I used a rest. For pond and river shooting, these guns may be from 12 to 16 lbs.; but more than that greatly fatigues the arm; and with a gun of this weight a good charge is carried a very considerable distance. A broad butt lessens the recoil, and a piece of sponge adapted to it will still further diminish that unpleasant feeling.

Colonel Hawker lays down a rule for the length of duck-guns, which is founded upon the length of the fowling-piece to which the individual intending to use one is accustomed. It is as follows:—Measure the diameter and the length of the ordinary gun; then find how many times the former will go into the latter—and order the duck-gun to be four or six diameters more than it. Thus, supposing the gun to be 44 times the diameter—viz., 2 feet 8 inches, let the duck-gun of 7 gauge and 13 lbs. weight be from 3 feet 6 to 3 feet 8 inches, or even 4 feet in length. He also recommends the addition of a pistol-grip for the right hand, which takes off a little of the jar from the shoulder; and that this part should be bound round with twine like a cricket-bat. In loading a duck-gun, the farther you wish it to carry, the more powder and the less shot you must put in; this rule applies to all guns, but more especially to the duck-gun. (See Fig. 1.)

Species of Primer.—Duck-guns, of all sizes, are peculiarly liable to wet, and often to the spray from the sea. It is found that, under these circumstances, the ordinary copper cap will often miss fire, from becoming damp, or allowing the powder in the nipple to do so. Mr. Westley Richards, however, has invented a primer, which acts remarkably well for all sizes of duck and punt-guns; and the brass cylinder containing the percussion powder is perfectly waterproof; they may be applied to any percussion or flint gun. But for single guns, these, as well as the percussion caps, are somewhat in the way of the sight—at least Colonel Hawker says they are, which, to many, is the same thing; and he has invented a side primer, which consists of a flat anvil, on which a tube is placed, which also passes through a touch-hole, similar to the old flint guns. The striker explodes this tube just as the flint sets fire to the powder in the pan of the old flint gun; and, as coarse powder can be used instead of fine, many advantages attend its use—one, that it is perfectly waterproof; a second, that coarse powder may be used; and a third, that the gun rarely misses fire, because the tube reaches straight to the powder in the chamber of the breech.

Breech-loading duck guns are now made of all bores, and answer well in every respect but range.

Duck-Shot.—No. 1 or 2 is the shot for a 7 gauge, and A or B for a 5 gauge, or inch-bore.

Dress.—A strong *woollen* shooting-coat should be worn, as the cotton fabrics do not resist cold and wet sufficiently for this sport. Caps should always replace hats, making a considerable difference in the height of the individual; they should also not be too dark, but of a neutral colour. The trousers should be of some strong woollen fabric, and woollen stockings, drawers, and waistcoat should be invariably worn. In situations where there is much wading, the long water-boot should be put on over two pairs of woollen stockings. Mr. Short, of East Yarmouth, is said to make these boots well. They should be well dressed with the linseed oil composition, or, *if time can be given them to dry*, with neat's-foot oil. Nothing keeps water out so well as this last; but it must be thoroughly soaked in the leather, and takes many months to dry, so as to be safe in point of health. I have put on boots thus treated, which felt exactly as if thoroughly wet, and would give cold as easily as if they were really so.

Sect. 4.—Wild-Duck Shooting in Rivers, &c.

Wild-Ducks.—When the shooter seeks the wild-duck in the shape of flappers, he should go to the brook, or pond, where they are supposed to be in July, and send his dog into the rushes, woods, &c., along the banks; in process of time he will spring the old duck, and this will encourage him in the search for her brood. By-and-by a young bird is seen to rush about among the reeds, and makes perhaps an attempt at flight, in which she most probably falls a victim to your shooting propensities. The whole brood should be diligently followed when found, as those which are left will not remain to stand another hunt. In the month of August the young birds are able to fly to the corn-fields; and towards evening, and very early in the morning, they may be caught sight of and shot in their flight backward and forward to the water; or, after they are in that element, they may be hunted for in the banks and shot. This is very pretty summer shooting, and affords very good practice for both dog and gunner. In many large ponds, or ornamental waters, these birds are found in large numbers, but will seldom suffer the approach of the shooter, except in their morning and evening flights at this season to the corn-fields. But when small brooks fall into these waters a few stray young ducks may generally be met with and shot.

Shooting Teal.—Of all the varieties of river-shooting, that of teal affords the best sport, as they do not fly far when found, but alight again on the same brook, or pond. They are less cunning than the common wild-duck, and are, consequently, more easily approached; and, being of such a good flavour for the table, they are eagerly sought after. They fly very fast and strong, but not far; and will sometimes take half a dozen shots before they are killed, if the shooter is a young hand at the business. In marking a teal on a brook, be very careful to cast the eye well forwards, as he is very apt to appear to settle long before he really does, and in this way deceives the sportsman; or he will drop, and then swim away most diligently, without any attempt at concealment in the banks or rushes. The plan, therefore, is to send a man down below him to head him, and prevent his adopting these tricks.

In shooting Coots and Waterhens, the object is to get them on the wing, as they dive at the flash so rapidly, that they can rarely be killed while in the water, or if killed, they die below the surface, and are thus lost. The best plan is to conceal yourself on the windward side of the pond, where you will not be heard or smelt by these birds; and get an assistant to go and put them up with stones on the other side, catching them, if possible, away from the bank; or he may fire at them a long shot, and thus make them rise; but, after all, they are an unmanageable species of bird with the gun.

The Grebes are worse than the coots in diving at the flash; and are really scarcely worth the trouble of shooting.

Sect. 5.—Decoy-Duck Shooting in the Hut.

Description of the Decoy-Duck.—This sport was originally practised in France, but is now being gradually introduced into this country. It requires, in the first place, the aid of six or eight tame and pinioned wild-ducks, and these should be of the French variety or breed, which, like their masters, are vivacious and talkative in the highest degree. Besides these, the shooter provides himself with one or two good duck-guns, and then proceeds to make his hut. In France, the shooters are generally of the peasant order, and follow the shooting of ducks as a trade, which is

commendable enough, and the exercise of ingenuity in thus providing for the market, and for the wants of their wives and families, is worthy of admiration and respect. In this country, however, this species of sport, as far as I know, has only been followed by gentlemen-sportsmen, who build huts, and use decoy-ducks, for their own amusement. Now, I have nothing to say against this, for the sport is fully equal, in my opinion, to any other shooting in ambush; and perhaps, since it displays a little more ingenuity than usual, it may stand at the head of that class of sports. It can only be carried on with advantage in the neighbourhood of those spots which are frequented by the ducks in large numbers, because it is entirely dependent upon the power of "calling" down the wild-ducks which the decoy-birds possess. It is well known that all gregarious birds are induced to drop where a good "call-bird" is placed; and this is the case, without exception, through the whole tribe. The Frenchman, therefore, takes advantage of this knowledge, and fastens several decoy-ducks on the water in such situations as shall be within call of the ducks as they fly to and from their evening meal. Then, as they drop to the invitation of the decoy-ducks, they are shot by the ambushed-shooter, and retrieved by his dog. Sometimes these huts are fixed at a very short distance from the sea, and at others at some miles from it, but always under the regular line of flight which these birds take. The shooter having taken measures to procure his tame-ducks (which he does by taking either the eggs, or the nestling birds while quite young, and rearing them with other and older birds) proceeds to build his hut in the summer season, in the following manner:—

Building the Hut.—He first selects a sound piece of ground, either a small island surrounded by shallow water, or a promontory of the same kind partly surrounded by such a shallow. Deep water does not suit his purpose so well, because it compels him to employ his dog in retrieving the wounded or dead birds; and also necessitates the use of a boat in going to and from his retreat. The hut is thus made: a trench is first dug all round the intended site, in order to drain off the water, and leave the bottom dry for the feet of the shooter; next, a space is cut, deep and large enough for the feet and legs of two men, so that they sit down comfortably on the turf itself forming the surface of the island. After this the top covering is put on, which is made of a semi-circular form, of willows bent from side to side, and covered at the top with growing turf. A hole is left sufficient for the entrance of the shooters, and this likewise is closed with a turf or grass-covered door. The sides are made up with green twigs, sods, &c., so as to imitate the surrounding objects, and holes are left to admit the passing out of the barrels of the gun or guns in various directions, commanding the places where the ducks are expected to alight.

The Ambush.—When complete, the hut is left till the winter; as soon as that season arrives, the shooter proceeds to his hut just before the flights of ducks are expected, and fixes his decoy-ducks quietly on the water, tying their legs to stakes driven into the ground, if the water is shallow, or to ropes stretched across, if it is too deep for this. Three, five, or seven ducks are thus fastened, with the sexes alternating; but always having a preponderance of ducks over mallards. The decoy-ducks keep up an incessant quacking and chattering; and if they become quiet, are started off again by one or other of the following expedients. The first is, to rouse them by pulling the cord attached to them; the other, to pinch, or otherwise annoy, a spare duck kept in the hut for the purpose. As the flights pass over, they drop some of their members to these call-birds, which are shot by the ambushed-shooter, who has retired to his hut as soon as he has fastened his decoys. He generally waits as long as he thinks it prudent, before he fires his gun, in the hope of collecting a great number of birds on one spot, so as to sweep as many as he can; but sometimes, by waiting too long, he loses all; and the great art is to take advantage of the last moment, without waiting too long. When a shot is made, he has only to pick up the dead, and retire to rest as well as he can, or return to his house till a little before daybreak, for no more business will be done till then. At that time the ducks are returning to the sea, and may then be caught napping, as before. Wild-ducks and teal are thus shot in large numbers, wigeon, dunbirds, &c., refuse to be charmed by the voice of their pretended friends, and cannot be taken in this way. The old English plan of sinking an oil-cask in the ground, and covering it over, would, I think, be an improvement upon the mere earth excavation, as it would enable the roof to be kept much lower, and would also keep the feet and legs more dry. These huts are warm enough, in consequence of their small size, but they are

necessarily damp; and, to those who pass the night in them, they often give serious colds, followed by rheumatism or fever; and it is a task rather than a sport, in my humble opinion.

DRESS.—The only thing which need be noticed under this head is, that long waterproof boots are required to wade to the hut, to fix the ducks, and retrieve the wounded and dead wildfowl.

CHAPTER IX.

SALT-WATER WILDFOWL-SHOOTING.

SECT. 1.—MARINE WILDFOWL.

The three following kinds of wildfowl-shooting are practised on the internal fresh and salt-water lakes and estuaries of Great Britain and Ireland, such as the various lochs of Scotland, and the mouths of the different rivers which empty themselves on the south and east coasts of England, among which Southampton Water and Pool harbour are perhaps the most conspicuous. All kinds of wildfowl are shot indiscriminately with the punt-gun; but with the shoulder-gun the wild-duck, teal, wigeon, golden eye, &c., are chiefly thought worth the shooter's notice. I shall, as before, give the various kinds of birds which usually are taken, and then the punts, guns, &c., used in taking them. At the head of the list stands—

THE WILD-SWAN, OR HOOPER (*Cygnus Ferus*).—Of this bird there are several varieties—the common wild-swan, Bewick's swan, the Polish swan, and two small sub-varieties of the Bewick swan. This last swan resembles the common wild-swan in the colour of the base of the upper mandible; but the Polish swan has this part of a pale-yellow, instead of the bright orange. The internal structure of the three is shown to differ by Mr. Yarrell, and, therefore, though the external difference is so slight, there can be little doubt that they are different varieties of this bird. The adult swan is of a pure white; but the young birds, like those of the tame, or mute swan, are grey in plumage. They breed in the Arctic ocean, and only visit these shores in the winter season, when the colds of their summer residence are too severe for them. They are easily shot, till rendered wild and cunning by incessant firing at them. A charge of shot from an ordinary gun, if directed against the head, or under the wing, will often kill them; but not even swan-shot will penetrate the feathers of the back and upper surface of the wings. They weigh from 12 to 20 lbs., and strike with such force of wing as to break the arm of a careless or ignorant person.

THE COMMON WILD-GOOSE (*Anser Ferus*), generally called the grey lag, is more an inland bird than one frequenting the coast; but as it can scarcely ever be shot on the feed—which is its only reason for seeking the interior—it may perhaps be kept with its congeners, although seldom taken with the shot of the punt-gun. In Scotland, however, it is often stalked among the lochs, which are accessible to the shooter from their bold and partially-wooded shores. It is the ancestor of the tame-goose.

THE BRENT GOOSE (*Bernicla Brenta*), the BERNICLE GOOSE (*Bernicla Leucopsis*), the BEAN GOOSE (*Anser Segetum*), the EGYPTIAN GOOSE (*Chenalopex Ægyptiaca*), and the WHITE-FRONTED or LAUGHING GOOSE (*Anser Erythropus*), are all closely allied to the grey lag in habits and general appearance. None are equal to the tame variety for the table, being fishy and strong in flavour; but the Brent goose is by some considered a dainty dish, when it happens to be fat and well-conditioned. Wild-geese generally average about 10 pounds, and measure 2 feet 9 inches in length, and 5 feet from tip to tip of extended wings.

The wild-duck, teal, and pintailed duck, the wigeon and the pochard have been already alluded to at page 88. They form the staple of the punt-shooter's sport. They arrive in great numbers late in the autumn, the females coming by themselves first, and leaving in the spring—the same order being observed as in coming.

Besides the five ducks already noticed, the following are met with on the coast, and afford sport to the puntsman:—

THE SHELDRAKE, or BURROUGH-DUCK (*Tadorna Vulpanser*), and the RUDDY SHELDRAKE (*Casarka Rutila*).

THE BLACK SCOTER (*Oidemia Nigra*), and the VELVET SCOTER (*Oidemia Fusca*).

The Shoveller (*Spatula Clypeata*).
The Eider Duck (*Somateria Mollissima*).
Long-tailed Duck (*Harelda Glacialis*).
The Gadwall (*Chaulelasmus Strepera*).
The Golden Eye (*Clangula Glaucion*), of which the young is the Morillon.
The Harlequin Duck (*Clangula Histrionica*).
The Scaup Duck (*Fuligula Marila*).
The Tufted Duck (*Fuligula Cristata*).
The Garganey, or Summer Teal (*Pterocyanea Circia*).
The Divers (*Colymbus Glacialis, C. Arcticus* and *C. Septentrionalis*).
The Curlew and Whimbrel (*Numemius Arquata* and *N. Phæopus*).

To these, which form the bulk of the puntsman's objects of sport, may be added—the Ringed Plover; Turnstone Sanderling; Oyster-Catcher; Redshank, common and spotted; Little Stint; Dunlin, or Purre and Purple Sandpiper; the Oxbird, and the Dotterel; also, the Cormorant, Gannet, and Gulls. The Rockbirds, including the Guillemots, Auks, Puffins, and Razorbills, also afford objects for the shooter's power, rather than skill, to be displayed; though some of the first-mentioned are difficult to reach. from shyness, and are only to be bagged by shooting from the punt, as I shall presently describe. The ducks, swans, geese, &c., including all of the duck tribe enumerated above, together with the Curlew and Whimbrel, and also the Divers, are those which principally may be considered wildfowl, and which the wildfowl shooter sweeps down with his heavy duck-gun, or his still heavier punt-gun. I shall divide the subject into the three following heads: first, stalking wildfowl on land; secondly, ordinary shoulder-gun punt-shooting; and thirdly, stancheon-gun punt-shooting.

Sect. 2.—Stalking Wildfowl.

The Stalking of Wildfowl can only be practised in situations where cover is afforded to the stalker, either by shrubs, trees, or rocks, and particularly where he can take the birds in rear, after discovering them in front—as in lakes or lochs, &c. In these he can first see them on the opposite shore, and then go round and attack them on the same side as that on which they are feeding. There are two ways of carrying out this mode of getting at wildfowl; one, by taking advantage of every *natural* shelter afforded by rocks, trees, &c., and keeping them between the body of the stalker and the eye of the birds sought; the other, by employing the inventive genius of man, and using the moveable stalking-machine invented by Colonel Hawker, or the stalking horse of the old fowlers; but the colonel's invention is by far the most successful, and, in my opinion, affords the very best kind of shooting which concealment or ambush is capable of. Mr. Colquhoun, in his admirable work on the "Moor and the Loch," describes wildfowl-stalking in the most glowing terms; and to men in high health, fearless and regardless of cold and wet, it is, no doubt, as attractive as deer-stalking. I shall quote largely from his pages, if not in his words, yet using his descriptions as my text for an account of a sport which I never had an opportunity of witnessing in the localities which he assumes as the basis of his operations.

The Requisites for this sport are—first, a hardy frame, great activity of body, and some degree of quickness of thought and fertility of invention, in order to take advantage of all the features presented by the rocks, shrubs, &c., as protections against the sight of the wildfowl; secondly, a good *double* duck-gun, of about 14 lbs. to 18 lbs. weight; thirdly, a retriever perfectly under command, and accustomed to hunt when needed; and fourthly, a good telescope. For the retriever, Mr. Colquhoun prefers a cross of the water-spaniel or Newfoundland with the Scottish terrier; imagining that the latter will give *nose* to the former, which is quite in opposition to the general impression; though, I confess, it is in conformity with my own experience, as I have seen as many tender-nosed terriers as spaniels, and many more than I have seen among Newfoundland dogs. He advises all waterproof boots and coats to be discarded, as impeding the snake-like crawlings and stoopings which this sport requires; and seems to laugh at the wettings which the absence of waterproof leggings or boots must occasion. Few, however, can suffer this exposure to cold and wet with impunity; and I should advise great caution in venturing upon it, since there are not many who would escape scot-free.

General Principles of Stalking Wildfowl.—Provided with his gun and retriever, and with glass in hand, the stalker looks out for his game in the distance, taking care to avoid showing himself, by keeping behind some projecting rock. To effect this purpose, he must creep cautiously towards the shore, and sweep the surface of the loch with his glass, resting it upon some large stone or rock and concealing his whole person behind this

object. And soon as he sees what he is looking out for, he should take the bearings of some two high trees on the same shore as the fowl, and as close as possible to them; one of these should be near the shore, the other further inland. Next, let him leave the shore of the loch, and make a detour to the other side, at a few yards' distance from the water, and carefully out of sight of the wildfowl. He must, while proceeding on this path, avoid any noise whatever; not even venturing to speak to his retriever, and taking great care of all rotten branches on the ground, or in his way, as the ears of all wildfowl are peculiarly sensitive. As soon as he has neared the more inland of his two marked trees, he must order his retriever to its root, and command him, by signs, to lie down, and remain there till summoned by the gun, which he should be taught to attend to. Relieved of the anxiety attending upon the movements of his four-footed assistant, he now steals cautiously forwards towards the mark nearest the water, and by the bearings he has taken he knows exactly where the fowl are; but he must endeavour, if possible, to approach them unseen, in order that he may seize the favourable moment, when several are congregated for a shot while sitting in the water, or feeding in its shallows or on its shores. To do this great caution is required, as the act of raising the gun to fire will often cause the wildfowl to take the alarm, and to dive or fly off. He, therefore, looks for a thin bush to fire *through*; or, if this cannot be gained unseen, then he must raise his gun *by the side* of one, or by a rock or stone. After the first shot, the fowl will often rise in a cloud from the water, and that is the time for the use of the second barrel. Mr. Colquhoun is strongly of opinion, that wildfowl do not possess that keen sense of smell which is generally assigned to them; and particularly by Colonel Hawker. He attributes their uneasiness, when to leeward of the shooter, to the acuteness of their ears, not of their nasal organs, and supports his opinion by some strong cases. For want of opportunity, I must leave the difference between these sportsmen to the judgment of those of my readers who may themselves be more calculated than I am to decide between them.

SOME FURTHER HINTS FOR PARTICULAR CASES are added by Mr. Colquhoun. If he is in pursuit of the divers, including the golden eye, and the morillon (which latter, he thinks, cannot be the young of the former, because its flavour is so different), he proceeds, as before, till he gets as near the part of the lake where they are as he can without discovery; then, when he sees two or three dive together, he rushes to the shore, and awaits their coming up with his gun at his shoulder, being able to trace their whereabouts by the line of bubbles they send up to the surface. As soon as they come up and take wing, he directs you to shoot well forward, and you have a good chance of bagging a great delicacy, if the golden eye is the bird you have been stalking. When the flock is large, an unpractised stalker is puzzled to know what time to allow for his final run, because, as he is watching them, he does not know which particular bird comes up and goes down, as they are continually appearing and disappearing. The only way is to watch some detached bird, and that one may serve as a guide to the rest. Very shallow water is not favourable to this kind of stalking, because the disappearance of the rest of the flock is at once detected by the diving pair of birds, and they rise to the surface and are off before the shooter has completed his approach. Dunbirds, he says, may, in Scotland, be managed with the greatest ease, as, from not being much shot at, they are comparatively tame, and, from keeping together, afford a good shot to the heavy duck-gun. They may be easily manœuvred from one side to the other, by an assistant throwing bits of stick, &c., into the water without showing himself, and thus driving them into the part of the loch which the ambushed stalker commands. Good sport can scarcely be had in large lochs, or where the shore is too closely wooded; as it is impossible, in the former case, to get round to the other side, and, in the latter, to approach near enough to the water without noise. The higher the banks the better, if the stalker is protected by irregularities of the ground, &c. "The wildfowl shooter," says Mr. Colquhoun, "must never forget that the true proof of his skill consists in obtaining *sitting* shots, and stopping a number of fowl at one discharge; and, unless with divers, must not think of a flying right and left." Such is wildfowl law.

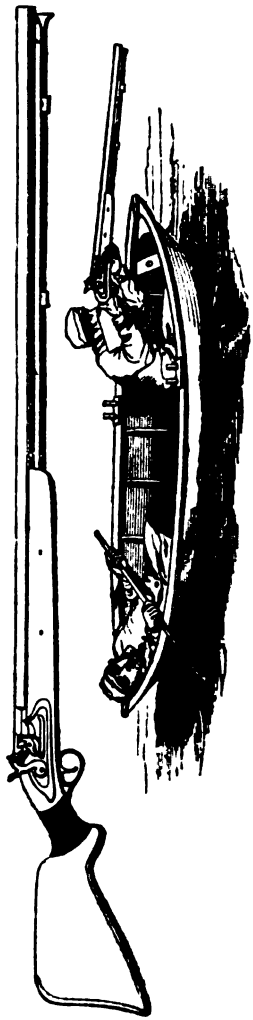
COLONEL HAWKER'S INVISIBLE APPROACH.—The second kind of stalking to which I have alluded, and which is carried on by means of a moveable cover, is well adapted for such lochs as are deprived of the natural ambush which I have been alluding to, as described by Mr. Colquhoun. It has been tried by Colonel Hawker, the inventor, and found to answer the purpose; though I should certainly have fancied that the

approach of so bulky a machine on a *bare shore* would give the alarm to wary birds like the wildfowl. The machine is simply a long wheelbarrow, with a cover which opens to admit the stalker, and which cover and the wheels—which are also concealed with painted canvas—are dressed with boughs, so as to imitate a bush. The gun is protruded through an opening in the front, and is concealed, as far as possible, by overhanging boughs. The idea may, of course, be differently carried out, but this will depend upon the ingenuity of each person using the invention. In approaching birds by this machine, it would, of course, be wheeled as far as possible in the ordinary way; then, when all natural concealment must be given up, the lid must be cautiously opened behind, and the body of the shooter must enter, closing it after him. In Colonel Hawker's plate of the machine, the body is made to recline upon a canvas bottom; but how the shooter is to *progress* in this way I know not. If the machine were made with a perforated canvas bottom, it might be gradually moved forward by the legs and hands of the shooter, and the recoil of the common duck-gun could do him no more harm than in an ordinary discharge; but if a stancheon-gun is used, it is very important that the shooter should be a part and parcel of the machine, and be carried back with it in the recoil; he must, therefore, have a canvas bottom to rest on. A disregard of this caution would lead to serious consequences, but this will be more fully alluded to in describing the large stancheon-gun. Colonel Hawker says that this machine answered admirably well at some very wild leverets; and it is worth trying, certainly, in bare and difficult situations.

Sect. 3.—Shoulder-Gun Punt-shooting.

Here a new aid to the shooter is enlisted, and he has not only his dog and his shoulder-gun of single or double-barrel, but he likewise has a punt to enable him to get up to his game on the water. The dog and gun are similar to those which I have already described, except that the latter is considerably heavier and longer; and its size being no longer limited to the capacity of the human arms to carry it, but only by the endurance of the shoulder in bearing its recoil, it may be unrestricted in absolute weight.

The Old Poole Punt (see *fig.*) is a very clumsy kind of expedient for this purpose, inasmuch as it is wholly exposed to the effects of rough water, and is consequently unfitted for any but smooth and calm weather. It has been in use for many years in the harbour of Poole, and also on



Duck Gun. Old Poole Punt.

Southampton-water, and other sheltered spots in that part of the southern coast; but it is now entirely superseded by

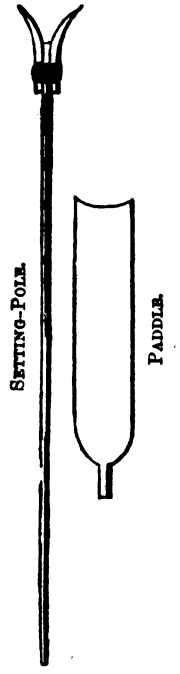
The Decked-Punt, first introduced by Colonel Hawker, and since his time in common use wherever waterfowl are to be met with on the coast. In the old punt accidents were continually occurring, but in the decked-punt a tolerably heavy sea may be borne with impunity. The modern punt is usually about 15 feet long from stem to stern, and nearly 4 feet wide at the middle, gradually tapering towards the

Decked-Punt.

bows and stern. This will be better understood by a reference to the plan given in the figure above, in which the shooter is protected from the sea by the deck over his legs; and between the shooter and the puntsman a canvas, which is there shown folded up, can be drawn tightly across so as still further to protect both of them. A considerable quantity of water is of course sometimes shipped, but not enough to swamp the punt; and by care and skill it may be used in any ordinary sea. In making all these light punts, the bottoms should be rounded a little, in order to give them life—if too much so, they are unsteady:—for a shoulder-gun only, the planks of white deal need not be more than one-third of an inch thick, and of one piece, as in the ordinary London outrigger. The seams should be well caulked, and the inside coated with resin softened with a little oil; the outside of the bottom painted with red lead; the sides and top of a light brown or fawn colour. This punt may be easily carried by two persons, and pushed anywhere before one of them over the mud, &c., for which purpose it has a square stern and two handles. (See *fig.*) It has a deck like the outrigger sculling-boats used on the Thames, &c.; which, however, cannot be made into a water-tight compartment, because the room is wanted for stowing away the gun, ammunition, &c., and also for the legs of the shooter. By means of a land-carriage—which may be very easily constructed, either for the hand, like an ordinary truck, or for a horse, on four wheels—it may be conveyed to any creek, then launched over the mud, and used while the sea is too rough outside to admit of its being brought there by water. Any rough boat-builder or common carpenter can make this punt; but a regular boat-builder will of course turn out the most ship-shape article. No one will venture to think of building one without referring to Colonel Hawker's book, in which full directions are given, with the measurements necessary for the purpose. The subject is not one of such general interest as to require their admittance here; nor ought any one who is about to lay out twenty or thirty guineas in building a boat, to grudge an extra sovereign in a book.

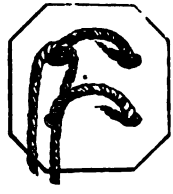
Punting Accessories.—To use this punt, either oars muffled with leather are employed, or a paddle or paddles, with a short handle for one hand, and tied to the gunwale by a short cord, so that they may be dropped without noise or the necessity for shipping them. (See *fig.*) A long and loaded forked-stick is also required, to move the punt on or off the mud-banks, and to pin down wounded birds with (see *fig.*); and in addition, a pair of mud-boards, from twelve to sixteen inches square, which are securely fastened to the ankles, when wanted, as follows:—Put the foot between the two loops, with the heel against the loose line that is attached to both; then

cross that line over the instep, and pass it under the loop, on each side, when



bring it up to the instep again, and tie. (See *fig.*)

Mud-Board.



Management of the Punt and Gun.—With these accessories the shooter proceeds, generally by night, with an assistant in the punt, both using the oars, paddle, or forked-stick, till nearing the wildfowl, when the shooter must sit with his legs under the deck in front; and the assistant, crouching behind, paddles or poles him to his game. Some go out alone, and proceed with the paddle in hand, and the gun lying by the side ready for use, till they see or hear the fowl on the mud. A shot is then made, first springing the fowl by tapping lightly on the bottom of the punt; those who are attended by a puntsman cause him to give the birds the alarm, and take advantage of it exactly at the right moment. The amount of success will be announced by the wounded birds beating on the mud. The puntsman then puts on his mud-boards, takes the setting-pole, and, together with the retriever, proceeds to pick up the dead and dying; but one-half of the wounded generally escape, if the shot has been made, as it generally is, by night. Flying shots are always refused by puntsmen, as not killing sufficient numbers.

The following Terms are in Use among Wildfowl-Shooters:—A flock of wigeon is termed "a company;" of swans, cranes, and curlews, "a herd;" of teal, "a spring;" of geese, "a gaggle;" of ducks, "a badelynge;" of mallards, "a sord;" of coots, "a covert;" of sheldrakes, "a dopping."

The Dress, &c., necessary for punt-shooting will be fully described under the next and more important section.

Sect. 4.—Stancheon-Gun Punt-Shooting.

In process of time, from continual shooting at waterfowl wherever they appeared, it became very difficult to approach them within sixty or eighty yards, the extreme limits of the *killing* range of the shoulder-gun. The invention, however, of the shooters soon met this difficulty, by contriving a larger and heavier gun, fixed upon a rest in the punt, and stayed from recoiling by ropes carried to the bows. These guns were at first very rudely constructed, and single-barrelled. They carried from a pound to a pound and a half of shot, and were fired by a *flint* lock, for various powerful reasons. However, it is unnecessary for me to enter upon the *history* of the stancheon-gun and punt, as the old ones are now entirely superseded by Colonel Hawker's most recent invention, which certainly is a most ingenious one, and which by itself would suffice to make the reputation of an ordinary man. I confess that, but for this, I should be surprised at the reputation which he has achieved, since I can see nothing else which the long experience of any man of ordinary capacity should not have led him to devise; but this gun is not the result of any ordinary thought, but it is

the effort of a genius devoted to one pursuit, and showing itself in one of the most happy combinations of mechanical ingenuity which it ever has been my lot to see. It must be remembered, that the object of the gunner is not to discharge a large *circle* of shot, as in shooting at objects in the air, but rather to fill an *oval* with his deadly little messengers. The reason of this is, that the fowl are lying on the water, and consequently do not form a circular target, but an oblong one, often extended to a great length. The gunner being on a level with them, or nearly so, has them almost on a line with the axis of his gun, and could perhaps dispense with still more of the upper and lower shot than is now effected by the double-barrel of Colonel Hawker. But not only is this oval instead of circular discharge of shot effected, but by using two kinds of priming—namely, the detonating powder of the side-primer for the one barrel, and the flint for the other, the two are discharged one after the other, and the recoil is thereby very much diminished, so that a much greater and more powerful shot may be made with the two differently-primed barrels, than could be permitted in two detonators, or even in two flints, and much more than in a single-barrel, even with a flint lock; moreover, there is this advantage attending it—there is the quickness of the detonator for the birds lying on the water-line, and then at a second's interval, just as the remaining birds are rising, comes the slower discharge from the flint. This gun, therefore, would be adopted by every wildfowl-shooter who indulges himself in punting, but for the expense; but as this is considerable, I shall first give a short account of the colonel's single-gun and punt, and then of his finished invention—the double stancheon-gun, and punt to carry it.

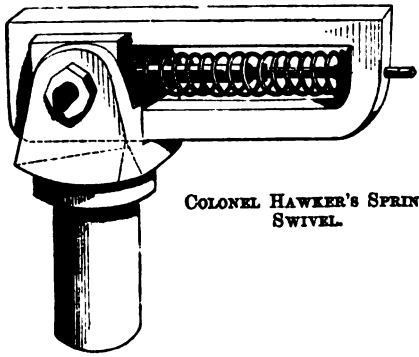
THE SINGLE GUN should be in length of barrel from 7 to 9 feet; bore from 1¼ to 1½ inch; and weight from 70 to 80 lbs., including the patent plug. The smaller the bore, the farther you can shoot; but this size does not carry so large a charge of shot, and consequently will not take in so many birds within its circle. The barrel should be substantial in every part, and not filed away for any purpose. If the above weight be adopted, the flint lock must be used, because this strength and size will not be safe with the detonator, on account of the recoil. If, therefore, the gunner wishes the detonating lock, the weight must be increased to 128 lbs., which, however, requires the aid of another pair of hands to ship and unship from the punt. The former size may be used with a rope breeching, which is attached to the bows of the punt, in order to prevent the recoil; the latter would not be safe without Colonel Hawker's spring swivel. (See below.)

THE ABOVE GUN is mounted in a punt built expressly for it, the weight being carried on the bottom or floor, which is the only part built of strong and substantial materials.

COLONEL HAWKER'S PLAN FOR FIRING A FULL DISCHARGE OF SHOT IN AN OVAL, WITH DIMINISHED RECOIL.—This invention is intended to supply entirely the above *desiderata*, and it appears to have fully answered the purpose. In the old plan, it was found that more than a pound of shot produced such a recoil as to endanger the safety of both punt and puntsman, and many accidents occurred to both. A pound and a half to two pounds were often fired without extra precaution; but the recoil was tremendous. Nevertheless, as it was considered desirable to use this quantity of shot, the following is the colonel's method of combining the use of even two and a half pounds with safety and diminished recoil. In the first place, instead of discharging this enormous load of shot from one large barrel, he divides it into two, which are put together so as to fire two circles, each one partly encroaching upon or eclipsed by the other, by which an oval, instead of a circle, is included in the fire. Next, he fires one barrel with a detonating primer, the other with a flint, so that there is a trifling difference in the times of the ignition sufficient to cause an immense diminution of the recoil. To do this, the two barrels are put together so that their cylinders are perfectly parallel, the outsides being close at the breech, and wide apart at the muzzles. Such is this most ingenious instrument for doing what is wanted by wildfowl shooters.

SPRING SWIVEL.—The recoil is lessened in the following manner:—A long loop is worked on, between, and under the barrels; in this loop runs a slider, which is attached to the swivel pin that is raised or depressed in order to fire the gun. The two are connected by a strong pin, which also keeps the slider in its place. Before the slider, and kept in its place by a longitudinal pin, is a spiral spring, and this spring takes the shock of the recoil, and breaks it in a wonderful manner. The most important matter is the fixing of the loop, which should be carefully welded, not soldered on; because if this should tear away, the gun would fly back, and do

most probably fatal injury to the gunner. Altogether it is a very efficient, yet simple, means of taking off the recoil; it is supported upon a block fixed in the floor of the punt, and the danger of the slide breaking away from the barrels is diminished by the use of a spare rope breeching from the gun to this block.



COLONEL HAWKER'S SPRING SWIVEL.

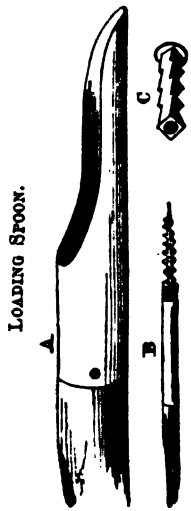
THE PUNT FOR THIS DOUBLE STANCHEON-GUN is of the following dimensions and make:—It must be large enough to carry two men and gear, with dog and gun, weighing at least 600 lbs.; it must be decked, leaving only room for the gunner to take aim, and the man to work to the birds. It is desirable also that the man should be able to work his paddles without showing his hand above deck; and, consequently, a part of the deck must be made to ship and unship for that purpose. The whole must be made very light—the deck being covered with canvas, for the increase of its strength, and tightness from water. The deck must be supported in front where the man stands in loading, and in the places where the copper thowls are fixed for the oars. The inner edge of the deck, surrounding the open part, must be protected by bulwarks, or wash-boards, which are four inches high forward, and have the opening for the barrels of the gun stopped by an extra piece, when the sea is so high as to require it. The punt may be rowed stem forwards by two pair of sculls, when the gun is raised by means of a block devised for the purpose; or it may also be rowed stern forwards by two pair, or by one pair in the stern; or it may be paddled. There is a cover for the open space when the boat is laid up in harbour. This punt sails or rows, and when the sail is used the birds are even more easily approached than when she is rowed, as the wildfowl become accustomed to the sight of sailing-boats, and their suspicions are lulled. By the use of the sliding swivel the recoil is taken direct from the barrels, and the old large and cumbrous stock is now done away with. Of course, this slide may be adapted to either single or double guns; and, if properly welded on, is much more safe than the rope breeching. The detonator used by the colonel is the brass primer. Instead of a mere fork to rest the muzzle of the gun, Colonel Hawker uses a slide for that part. For the dimensions, and full particulars necessary to make these punts, and other apparatus used with them, the reader is referred to Colonel Hawker's book. He is the sole authority on the subject, and it would not be right to rob him of what he has taken so much pains to bring to perfection.

VARIOUS REQUISITES FOR THE GUN.—Having described the single and double stancheon-guns, it remains that I should also give a description of the apparatus for loading, &c., which is the same for both guns. Among the old gunners, the only mode of loading the gun was to unship it; but there is now the following invention, by which this awkward process is avoided.

THE LOADING-SPOON (see *fig.* A) is merely a wooden rod, flat on the side corresponding with the spoon, which is of brass, and attached to the one end—the other being tapered off and armed with a worm (B) protected by (C), which screws on.

LOADING.—The spoon should hold as large a *measure* of powder as the shot;

and in loading it should be filled with powder, then gently introduced into the gun, still in a horizontal position, as far as it will go; as soon as it has reached this point the flat side is to be turned downwards, when the powder falls out, on giving the rod a gentle shake. It should be well worked into the central hole with the small



end (c); and if that hole wants clearing out, or the cartridge is to be drawn, the worm (B) is capable of effecting that purpose. Great care must be taken that the powder is well worked into the central hole, as without this precaution the gun is apt to miss fire, or to shoot slow. After this, the wadding is to be driven down, and then the shot.

ELEY'S CARTRIDGES are made of all sizes for large guns, and answer admirably.

THE POWDER should be coarse-grained, of the kind called "sea-gun," by Messrs. Curtis and Harvey, who manufacture it purposely for punt-guns.

THE SHOT FOR PUNT-GUNS should be as follows:—

For shoulder punt-guns	No. 1 for fair shots. A. for long shots.
For stancheon punt-guns	No. 3 for starlight. No. 1 for fair shots.
Packed in cartridges . .	S.S.G., or L.G.
For Geese	A., or A.A.
Ditto, if very tame .	S.S.G.

THE DRESS OF THE GUNNER should be of such a nature as to resist cold and wet, and yet of a colour to be as far as possible invisible to the waterfowl. Without the last precaution, the birds will be frightened away; and without the two first, you will soon be unable to get to them, in consequence of the cramps and stiffness occasioned by damp and cold. Every part of the body but the feet should be clothed in flannel, wearing a Flushing-frock under a waistcoat of Bath-coating or shag; above the waistcoat, a short jacket of woollen cloth or swanskin. The cap may be of cloth, or of any waterproof material, with any extra warmth which may be required. The legs should be encased in very large and loose long boots, covering two pair of long and warm hose; and over these a pair of canvas or Flushing-coating trousers, according to the weather. The hands should be protected with warm muffatees, and also warm gloves. But in very cold weather swanskin cuffs must be used in addition; and they may be drawn off in an instant when the gun is to be used. As to colour, all depends upon the light. If sun or moon is visible, light drab should be the outside colour; but in starlight a snow-white is far the best; and for this purpose a clean linen frock may be put over all. The waterproof which you may have required must be removed when you begin to work up to birds. When the punts are to be pushed over mud—and, indeed, in almost all cases—it is prudent to put a large canvas frock over all, as the mud, blood, feathers, and powder will soon spoil everything worn which is not capable of being washed. Colonel Hawker also recommends a large canvas umbrella, which may be used as a defence against rain, and also as a mizen sail. Hats are especially to be avoided.

MANAGEMENT OF THE STANCHEON-GUN, AND MODE OF SHOOTING.—Having now described both the single and double stancheon-guns, with or without the spring swivel, I must now proceed to the mode of using them. Many may fancy that they can easily use this wonderfully-destructive weapon, but experience will show them that it is not so easy to manœuvre as it looks. When it is considered that the gun is floating on an unstable element like the sea, and that even there one must sometimes attempt a flying-shot, it will at once be manifest that this kind of sporting requires more tact than the knocking down of a partridge or a

grouse. When a flock of wildfowl is descried by the glass, the master and his man must set to work and either scull or sail as closely as they dare, without fear of disturbing them; then shipping the sculls, the gunner lies down to his gun, while the man paddles up to the birds, or, in punting language, "sets up to them." During this last operation both should keep as much as possible out of sight, the master only requiring the top of his head to be so much raised as to take aim, which he does by raising or depressing the pin of the swivel, and the man requiring only his hand and arm over the gunwale, in order to use the paddle. In this way the approach is made; and the following remarks will enable the gunner to reach and fire at each description of his game.

For Hoopers or Geese, he will generally have notice from the birds when it is the best time to fire, as they draw close together before taking wing, and raise their heads, which is the favourable moment for the discharge of the gun with effect. He may, therefore, persevere at night till within forty yards, if they do not give this signal. If they still allow his further approach, previously to firing he should make some little noise, in order to draw them together.

Brent Geese are always wild, except in severe weather, or when it blows very fresh, when they keep in harbour all day, though they generally go out at night. If, therefore, there is sufficient water in harbour in the daytime, they may often be "set up to." In mild weather, prefer a small flock to a large one. In pursuit of wounded birds, it should always be recollected that they make for the heaviest sea they can reach, and the attendant boat should therefore intercept them, if possible. A blow from an oar across the neck will kill these birds, which will take a severe blow on the body with impunity.

The various Divers generally give notice like the geese; the ducks and wigeon not so well; and teal give no notice at all, but spring at once on the wing. In setting up to birds, it must be borne in mind, that distance on the sea is very deceptive; and that what looks like fifty yards, is more likely to be double that distance. When *curres*, or divers of any kind, are wounded, they must be shot with common detonators, as they duck at the flash very rapidly.

A Cripple-Net on the same principle as a landing-net for fish, but about two feet in diameter, is very useful in landing the wounded birds.

These punts have been chiefly used in the south, as in Poole Harbour and Southampton Water, but they are now being introduced into the saltwater lochs on the west coast of Scotland, where large flocks of wigeon, teal, and geese are often met with; and where they afford even better sport than in the south, because they are not rendered so wild by continually popping at them. This coast is very flat, and the punt is the only means of approach, stalking being out of the question; but, with the aid of Colonel Hawker's various inventions, such sport as wildfowl-shooting is capable of affording will be met with in full measure. The advocates of this amusement are enamoured of it to an extent which those who have not tried it can hardly imagine; but, just as in all cases of dispute which imply a difference of opinion, it may here be affirmed that *de gustibus non est disputandum*.

CHAPTER X.

DEER-STALKING.

Sect. 1.—The Red Deer and Roebuck.

The Stag, or Red Deer (*Cervus Elaphus*), is the largest of the British deer, of which three varieties are known—viz., the red deer, the fallow deer, and the roebuck. The first is considerably the largest; and the following dimensions—given by Mr. Scrope in his interesting work on deer-stalking—will afford some idea of his enormous size:—

	ft.	in.
Height at shoulder	8	11½
Girth at shoulder	4	7
Height from top of head to fore-foot	5	6
Length of antler	2	6
From top of antler to ground	7	10

Gross weight, 808 lbs.

In colour, the stag is usually of a reddish-brown, with blackish muzzle, and mane mingled with grey; the inside of the thighs

and flank being lighter, and approaching to a fawn colour.

NOMENCLATURE, ACCORDING TO THE DEVONSHIRE HUNT.—Deer under one year are called *Calves*; till three, the male a *Brocket*, and the female a *Hearst*; at three, the male a *Spire*, and the female a *Hind*; at four, a *Staggart*; at five, a *Stag*; at six, a *Warrantable Stag*; and after this, a *Hart*. The female does not breed till three years old, and has only one calf.

HORNS.—The male is known from the female by having a pair of horns, which are shed yearly, and change in form with every succeeding year. Each fully-developed horn has a *brow*, *bay*, and *tray* antler, and *two points* also on the top. The first three are termed the *rights*; the two points, the *crockets*; the horn itself, the *beam*; the width, the *span*; and the rough part at the junction with the skull, the *pearls*.

AGE KNOWN BY THE HORNS.—The BROCKET has only small projections, called *knobbers*, with small *brow antlers*; the SPIRE a *brow antler*, and half-developed *beam*, called *uprights*; a STAGGART, brow, tray, and uprights; a STAG, brow, bay, and tray, with one horn crocketted and the other single; a WARRANTABLE STAG has brow, bay, and tray antlers, with crockets on both horns. After this no rule can be given, as the horns constantly vary in all points; but if they have three points, the harts are called royal.

AGE KNOWN BY THE SLOT.—This is the proper name, according to the laws of *venerie*, for the tread of the deer, which, in the hind, is much narrower and longer than that of the stag, especially at the toe. In the warrantable stag, the heel measures fully two inches; if more than this, and deeply indented into the ground, he is a large heavy old hart; and such usually bring up their hind-feet to the impression made by their fore-feet.

OTHER TERMS USED IN VENERIE.—The deer's haunt is called *his lair*; where he lies, *his harbour*; where he rolls, his *wallowing-pool*; where he breaks through a fence, *his rack*; if he goes to water, he *takes soil*; if headed back, he is *blanched*; if he lies down in water, he is said to be *sinking himself*; an unwounded deer is called a *cold hart*.

HABITS OF THE RED DEER.—He is rather a delicate animal, and bites close like a sheep; requiring an enormous range of pasturage to afford him such a choice and change as shall keep him in health. The hart ruts about the end of September, or beginning of October; and this period is exceedingly short, as compared with the sheep and goat, only lasting a single week. They show the change by a peculiar swelling of the neck, where they throw out a ruff of long hair; and at this time their flanks are tucked up, from their refusing food and their tendency to fret. While rutting, they are very restless, and roll constantly in the peat mosses, becoming often perfectly black with the soil that adheres to them. They are now wholly unfit for human food, and are never sought after by the sportsman, who selects, in preference, the more backward harts and the hinds, which are then just coming into season, but seldom yet fat and of good flavour. The rutting harts are exceedingly pugnacious, and terrible battles are constantly taking place for the possession of the females, a whole harem of which are the spoil of the conqueror. These battles are often fatal to one or both combatants; and many cases have even been known of two stags being so firmly locked together by their horns, as to be worried to death; an instance of which is commemorated by Landseer's celebrated pictures, "Night" and "Morning," in the first of which the harts are fighting fiercely, and in the second they are seen lying dead, with their horns locked together, so as to be perfectly inseparable.

THE PERIOD OF GESTATION in the hind is eight months; the fawn is left during the day concealed in the heather, and is only suckled at night. The suckling-hind is poor and tasteless, and should be allowed to escape from the rifle-ball. Hinds which do not breed, are called yeld-hinds.

THE DIRECTION OF THE DEER'S FLIGHT is almost always up-wind, in order to be forewarned, by their acute sense of smell, of any approaching danger. There is great difficulty in changing this instinctive course, but it may be done under certain circumstances. The hinds are always the most vigilant, and are set to give notice to the harts. The hinds are also always put first in the run, except in cases of great danger, when the master-hart comes forward and boldly faces it.

THE TIMIDITY OF THE RED DEER is very remarkable, and he can scarcely, except by compulsion, be induced to remain near the haunts of man. Every movement alarms him, from the cry of the plover to the flight of the hill-fox. He is more especially timid when he cannot make out the exact nature of the danger which threatens him; while, if he sees his great enemy, man, even comparatively close

to him, he is much more composed, though still wary, and never confused or flurried.

THE STAG, WHEN PRESSED, STANDS AT BAY, and in this position is a very dangerous antagonist for both dog and man, as he will defend himself with horns and hoof till the last extremity. By choice, he selects water, if pursued by dogs, as his instinct tells him that in this element his superior size and length of leg will give him a great advantage. Here few dogs can pull him down, and when they attempt to reach him by swimming, they soon fall victims to the sharp points of his formidable horns.

THE AGE OF THE RED DEER is said to be three times that of man; and there is strong evidence for believing that this popular belief has some foundation in fact, as many very old men have known particular deer all their lifetime, and have had the same knowledge handed down to them from their fathers, and even their grandfathers. No rule can be drawn with perfect accuracy from the period of gestation, which was considered by the old naturalists to indicate the exact duration of life in all animals, because we know so many exceptions as to falsify it altogether. Thus the horse and the ass go with young the same time, and even breed together, yet the ass is nearly twice as long-lived as the horse. Again, the camel lives twice as long as the horse, and yet goes with young one month less. There is, therefore, no reason why the deer may not live to the age usually allotted to him by the foresters, though nothing is more difficult than to get at reliable facts bearing upon this subject.

IN DRIVING DEER, they always follow in single file, like the Red Indians of America, and only break this rule when hard pressed by the dog, or by other causes. When fat, they are soon blown, and cannot go any pace up hill whilst in that unwieldly state, which only lasts till the approach of the rutting season. They seldom attack man, unless they are surrounded and hard pressed; but in the rutting-season, instances have occurred where savage and disappointed stags have attacked intruders upon their domains.

THE HAUNTS OF THE RED DEER in Great Britain are confined to the most retired and inaccessible parts of the Highlands of Scotland, to the Quantock Hills of Somersetshire, to some of the adjacent ranges of Devonshire, and to the New Forest; but in addition to these, may be mentioned the deer confined in certain parks, as Richmond Park, &c.; but these can only be considered as deer in confinement. In Scotland only are they stalked, being reserved for hunting in the west of England and in the New Forest.

THE ROEBUCK (*Capreolus Caprea*) is also an inhabitant of some of the Scotch deer forests, but it is chiefly confined to the wooded parts, not choosing the mountainous and open situations like the red deer. In size, it is not to be compared to its larger congener, being only 24 inches in height. As, however, it is rarely stalked, for its own sake, and as it is more calculated for showing sport before a pack of dwarf harriers, I shall include it among the objects of hunting rather than of shooting.

SECT. 2.—THE DEER FORESTS.

THE DEER FORESTS are confined to Scotland; and are only to be obtained by those whose purses are long enough to pay large sums for them. Indeed it is seldom that any are in the market, as the fashion of the day has made this sport more eagerly sought after than any other. The deer forests are—

First, those of Sutherland, the chief of which are the Dirrie-Chatt and Dirrie-Moss; the former being fifty miles long by an average of twenty miles wide, and the latter being about thirty miles by twenty. But, besides these, three smaller and detached forests are comprehended within this district—viz., the Parph, the Clibreck, and the Dirrie-Meanach. It is supposed that about 1500 red deer are at large in Sutherland.

Secondly, those comprised within Rossshire are the Forests of Applecross and Gairloch, most of which are only adapted for the red deer, and are too wild and rugged even for sheep. Balnagown Forest is partly devoted to sheep, but red deer also are found here, and in Loch Broom, Castle-Leod, Novar, and Tulloch. The estate of Foulis is peculiarly adapted for the red deer, but is now too much frequented by the shepherd. Coigach, the property of Mr. Hay Mackenzie, is strictly preserved; and in addition, the islands of Harris and Lewis are sure haunts of this noble specimen of the deer kind. At Coul, the property of Sir George Stuart Mackenzie, the red deer are very numerous, though it is only of late years that they have become so. Applecross is a celebrated forest, and contains large numbers of deer within its secure and sheltered corries and on its hill sides.

Thirdly, Inverness-shire contains the celebrated Glengarry Forest, which, from

east to west, is about seven miles in extent; also Glenfeshie, containing 13,704 Scotch acres, but now used as a sheep-walk. Gaick, consisting of 10,777 acres, strictly preserved by Sir Jos. Radcliffe; Drumauchtar, comprehending 5782 acres, now used as a deer forest by the Marquis of Abercorn; Glenavon, containing 22,086 acres, and held by the Duke of Richmond, as a deer forest, in connexion with Glenbuily and Glenfiddich, the former in the same shire, and containing 3396 acres, the latter in Banff, and making up 5522 acres: these all formerly belonged to the Duke of Gordon.

Fourthly, Aberdeenshire has within its limits Invercauld, 18 miles in length by about three miles in width, and containing an enormous number of deer, though these fluctuate so much as to be difficult to calculate. They are generally very fine and large, mainly owing to the excellence of the feed in this district, and the strictness with which they are maintained in an undisturbed condition. The Forest of Mar is also in Aberdeen, closely butting upon Invercauld, and consists of the four following glens, viz.—Glenquoich, Glenluie, Glendee, and Glenguildy. Its length is about 15 miles, and its breadth eight; and it is supposed to hold 3000 deer. It is the property of the Earl of Fife.

Fifthly, Argyleshire contains the Forest of Corrichibah, in the district of Glenorchy, the property of the Marquis of Breadalbane, and holding at least 1500 deer. It extends over 35,000 acres, and the nature of the ground is such as to render it one of the best deer forests in Scotland.

Sixthly, Perth has also its Forest of Glenartney, the property of Lord Willoughby d'Eresby, and containing 2800 acres, with from 700 to 1000 deer; but its crowning glory, as far as sport is concerned, may be considered to reside in the Forest of Athol, in which 51,708 imperial acres are devoted exclusively to the red deer, with the exception only of Glen Tilt, where sheep are sometimes admitted; 7000 deer are now supposed to be at large in Athol, but, at the lowest computation, there must be from 4000 to 6000. This noble property is strictly preserved by the Duke of Athol, and deer-stalking is here carried to that degree of perfection which has been so well described by Mr. Scrope.

And seventhly, in the Hebrides, also, red deer are found, and chiefly in the islands of Jura, Mull, and Skye; but they are here in much less numbers than on the mainland: yet in Jura alone there are said to be 500, and in Skye about half that number.

Sect. 3.—The Telescope.

Every deer-stalker, whether a principal or an assistant, should be provided with a good telescope; and I believe, by general consent, Dollond, in St. Paul's Churchyard is considered the best maker. He is, however, rather expensive, and good glasses by other makers may be obtained for half the price. But it is really astonishing to see what a difference there is between a first-rate glass and an inferior one. With the former the eye takes in everything as distinctly as if close at hand, whilst with the latter there is often a haze, which leaves it in doubt whether certain objects are red deer or rocks, or perhaps only heather in oddly-shaped masses. If therefore money is no object, Dollond would be the maker I should advise, and I am quite sure that in every other respect he will give perfect satisfaction. The telescope should be worn in a case slung round the right shoulder, and should be carefully kept from scratches by drawing the slide well over the glass after using it.

Sect. 4.—The Gillies or Hillmen.

Nothing leads more to success in deer-stalking than the having two or three thoroughly good and experienced hillmen to aid and assist in the work. In most cases the whole management is confided to them, because they, from long experience, are better able to know the exact currents of air in the confined valleys, and also can foretell the precise effect of all their stratagems. Each man should be born a forester, and should have imbibed his knowledge of his trade with his mother's milk. He should be patient, sober, and hardy—civil and obliging, anxious to show sport, and at the same time should be jealous of his master's prowess and interests. Such men are scarce, and should be valued accordingly.

Sect. 5.—The Rifle.

In the Choice of the Rifle much consideration should now be given; for the recent improvements introduced in France and England have effected quite a revolution in its form and powers. Under the old *régime* few rifles were sighted beyond 300 yards, and one that would put half-a-dozen balls at that distance into the crown of a hat was considered perfection. But since the introduction of match rifle-shooting we have changed all that, and are not content with less than a three-inch group at

that distance. To effect this, however, initial velocity has been sacrificed; and the same gun which will please the match-shooter will be rejected by the sportsman, who does not care to have any unnecessary allowance to make for the passage of the game while the ball is travelling from the muzzle to it. Hence a different amount of twist, and therefore a different ball, are adopted in each case: the match-shooter selecting a ball 2½ diameters long, which requires an entire twist of the rifling in twenty inches to keep it from upsetting; while the sportsman uses a much shorter ball, and a twist varying from a turn in six feet to one in eight or nine feet, according to fancy. For deer-stalking, where a quick shot is to be taken, the twist is of no importance; and in many cases Mr. Westley Richards' military breech-loader has been used with success for this sport; but for driven deer it is too slow in its initial velocity, and a barrel, or pair of barrels rather, with less twist should be preferred, as well as with a somewhat larger bore. The choice still rests between a breech-loader and a muzzle-loader, the former being by many deer-stalkers preferred on account of the facility of loading it. Any of the forms of the Lefaucheux action will serve the purpose, but there is none better than that invented by Westley Richards, and described at page 28. A rifle either on this principle or of the old double-grip action; or lastly, made on the central fire plan, with a self-acting extractor, will be found of great use in deer-stalking, and is, in my opinion, a great improvement upon the old-fashioned gun. The cartridge cases are loaded with powder and ball, just as if the loading was done at the muzzle; but care should be taken that the balls are not small enough to enter the barrel, which would render it liable to burst. This is provided against by all good rifle-makers in selecting the proper size of ball to be used; but sportsmen should be aware of the reason for the choice, or they may possibly be led into danger by changing the size. An attempt was made some years ago to introduce the revolver as a deer-stalking rifle, but it has so many objections to its use that it is now quite discarded from that sport. Mr. Adams and Colonel Colt both attempted improvements which should make it answer the purpose, but they have not succeeded in making this rifle either accurate enough in its shooting, or strong enough in its driving power. The reason of this is obvious when the gun is examined, or on referring to the illustrations accompanying these remarks. Fig. 1 shows the rifle complete; Fig. 2 showing the working action on an enlarged scale; and Fig. 3 the chambers removed, still further enlarged. Now, as these chambers must revolve freely against the open mouth of the barrel, the joint cannot be made tight, and the escape of gas here is so great and so variable in amount, that the shooting falls off greatly in accuracy, and the penetration or smashing power of the ball is very small. The escape of gas is also very unpleasant when occurring so close to the face (unlike the revolving pistol, which is held at arm's length); and for these reasons I cannot recommend the sportsman to adopt the revolving rifle. If a double rifle is objected to on any one of the plans I have recommended, I should advise the use of Westley Richards' military rifle, half stocked, as the best single-barrelled rifle in the market. The following are the prices charged by many respectable gunmakers: but Mr. Purdey of Oxford-street, or Mr. C. Lancaster of New Bond-street, will have from 50 to 100 per cent. more for the fashionable tools they turn out:—

Double-barrelled muzzle-loading rifle, with case complete	£42 0 0
Double-barrelled breech-loading rifle, with case complete	45 0 0
Westley Richards' single-barrelled breech-loading rifle, half stocked,	12 to 15 guineas.

Sect. 6.—The Deerhound.

The last accessory to deer-stalking which I have to describe is the Deerhound, which is used to retrieve the deer after they are wounded by the rifle; for it often happens that, though fatally wounded, they do not fall at once, but run some distance, and finally, even stand at bay, with a ball in some vital part. A dog, therefore, is wanted possessed of great speed, power, and courage, and capable of holding the deer by the ear or throat, if once he can get firm hold of either of those parts.

The old Scotch Deerhound possessed all these requisites in perfection, and his feats have been handed down to us in song and prose. I have taken some pains to ascertain the exact breed of these dogs; and the only conclusion that I can arrive at is, that they are identical with the rough Scotch greyhound; *but, having been kept for a particular purpose, they differ in their mode of running from those dogs.* No one can say, by looking at the two breeds, which is the

Fig 1

DEAN AND ADAMS' REVOLVING RIFLE.

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greyhound, and which is the deerhound; but the moment they are slipped, either at the hare or deer, a remarkable difference in the style of going is apparent, which detects the courser of the hare from that of the deer. They are equally fast, but the deerhound gallops with his head in the air, and his body raised off the ground, ready for a spring at the throat or ear, or even the thigh of his prey; while the greyhound, with his head close to the ground, lies down *entre à terre*; and he is also prepared to pick up his game, not to pull it down. This difference is so remarkable, that I am assured by Mr. A. Graham, the highest authority on the subject of rough greyhounds, that in their ordinary play you may at once detect the two varieties, though in kennel it would be utterly impossible. Now, although such a difference as this is quite sufficient to incapacitate each dog for the purposes to which the other is applied, still, it is only of such a character as would be gained or lost in a few generations. There is not the slightest doubt that greyhounds, even smooth ones, might be bred with all the requisites for the sport in the highest degree; but the rough coat is desirable to resist the cold and wet which would cripple a smooth dog while waiting for his master's shot. Mr. Scrope is of opinion that ordinary greyhounds have not courage enough for the purpose; but his experience of these dogs must have been very limited, or he would have known that many of them will pin a bull, and have nearly as much courage as the thoroughbred bulldog. Mr. Scrope gives the following dimensions as those of Buskar, a celebrated deerhound belonging to Captain M'Neill, of Colonsay:—Height, 28 inches; girth, 32 inches; running weight, 85 lbs.—of a black-muzzled red, or fawn colour. He ascribes to him the following attributes, in the highest degree, viz.:—speed, strength, size, endurance, courage, perseverance, sagacity, docility, elegance, and dignity. He was used solely, or chiefly, for coursing the deer; but those of the same breed which are in existence have tender noses, and run either by view or scent. These dogs, however, are so scarce, that it is almost impossible to procure one of the true old breed, and the deer-stalker, therefore, has no resource but to breed for himself, using such crosses as will be most likely to suit his purpose.

Mr. Scrope's Breed of Deerhound is thus described by that gentleman:—"Not being in possession of any of the celebrated race of the original Scotch greyhound, which are now, indeed, very rare, and finding that all the dogs in the forest of Athol were miserably degenerate, I bred some litters from a foxhound and a greyhound—the foxhound being the father. This cross answered perfectly; indeed I was previously advised that it would do so, by Mr. John Crerar, who, after having tried various crosses for sixty years, found this incomparably the best. Neither of these animals themselves would have answered; for the greyhound cannot stand the weather, and wants courage to that degree, that most of them will turn from a fox when they come up to him, and see his grin, and feel his sharp teeth; they will scarcely go through a hedge in pursuit of a hare till after some practice. Besides, they have no nose, and run entirely by sight, so that when the hart dashes into a deep moss or ravine the chase is over, and the dog stops and stares about him like a born idiot, as he is. The foxhound is equally objectionable: he has not sufficient speed, gives tongue, and hunts too much by scent; in this way he spreads alarm through the forest; and if you turn him loose he will amuse himself all day long, and you will probably see him no more till he comes home at night to his kennel. All these objections are obviated by the cross between the two. You get the speed of the greyhound, with just enough of the nose of the foxhound to answer your purpose. Courage you have in perfection, for most dogs so bred will face anything; neither craggy precipices nor rapid streams will check their course; they run mute, and when they are put upon the scent of the hart, they will follow it till they come up to him; and again, when he is out of view, they will carry on the scent, recover him, and beat the best greyhound to fits—I mean, of course, on forest ground. The present Marquis of Breadalbane had two dogs of this description, Percy and Douglas, which were bred by me. As they were my very best upon scent, I gave the late Duke of Athol the use of them every season, to bring cold harts to bay, in which they were wonderfully successful; for, if they were fairly laid on, no hart could escape them. They are now (in 1838) nine or ten years old, and his lordship informs me they are still able to bring the stoutest hart in his forest to bay, and are altogether perfect. These dogs, in point of shape, resemble the greyhound; but they are larger in the bone and shorter in the leg. Some of them, when in slow action, carry the tail over the back like the pure foxhound; their dash, in making a cast is most beautiful; and they

stand all sorts of rough weather. As the above is, I think, the best cross which can possibly be obtained for the modern method of deer-stalking, so it should be strictly adhered to—I mean, that when you wish to add to your kennel, you must take the cross in its originality and not continue to breed from the produce first obtained; for, if you do this, you will soon see such monsters staring around you, as the warlike Daunia never nourished in her woods and thickets, or as cannot even be surpassed by the sculptured ones at the Villa of Prince Palagonia, near the shores of Palermo. The late celebrated sportsman, Glengarry, crossed occasionally with the bloodhound instead of the foxhound; his famous dog Hector was probably bred in this way; and I believe Maida, the dog he presented to Sir Walter Scott, had also a distant cross of the bloodhound in him. Two of these small bloodhounds he generously gave to me, though he was chary of the breed; but they ran away from my kennel, and were unfortunately lost. A cross with the bulldog was once tried in the Forest of Athol, to give courage, but the produce was slow, as might have been expected, and the thing was overdone, for they were all killed by attacking the deer in front. High-couraged dogs of every breed, indeed, are subject to accidents; they get wounded, and even killed by the harts; are maimed for life, or meet their death by falling over precipices in their reckless pursuit, particularly in rounding a corner."—*Scrope*, p. 314.

Discussion of the Merits of this Cross.—I do not, of course, dispute the result of Mr. Scrope's experimental breeding. Doubtless, his dogs were good, and served the purpose to which they were applied; but at the same, I am strongly of opinion that a pure greyhound would answer the purpose much better. I have said that Mr. Scrope could have had little experience with greyhounds, or he would not have accused them of want of courage, want of nose, and idiotcy. No dogs fight more savagely; and the greatest annoyance in the greyhound kennel is the constant occurrence of lameness, owing to this cause. Muzzles are needful on many breeds, or there would be nothing left when the dogs are wanted for coursing. I recollect on one occasion watching two puppies of my own, only five months old, which fought for two hours, and held one another at the end of that time so tightly, that they were obliged to be choked off. These same puppies afterwards would face anything, from a cat to a bull, and were certainly bold enough to run into any deer which ever ran. Many others I have known as bold as these; but, nevertheless, I admit that the generality of modern greyhounds are of a more mild and pacific turn; still, the breeder would have no difficulty in selecting a strain which would give him plenty of courage of the kind he wants. Next, as to want of nose—greyhounds are always debarred from using the power which nature has given them, in common with all dogs, of running by scent as well as by sight; the consequence is, that they do not exercise that power, and, to a certain extent, it is in abeyance; but, if they are allowed to use it, they soon acquire a delicate and acute sense of smell, and can work out a scent as well as the foxhound. Mr. A. Graham tells me, that he formerly used to run his greyhounds a good deal with blinkers on, by which they were prevented from doing more than just rushing at their hares, and instantly losing them. These dogs, he says, soon acquired the most perfect use of their noses, and would hunt a hare as well as a beagle; or even wind her while in her seat, and then, guessing at the spot which they were unable to see, they would pounce upon their victim, and seize her in their relentless jaws. Such evidence is conclusive as to the nose of these dogs; for if they can do these things while discouraged in every possible way, what might they not be expected to do if properly entered to their game, and allowed the eight or nine years' practice which Mr. Scrope's Percy and Douglas were indulged with. I have often had puppies drag their leader across a field in pursuit of a hare by scent, keeping their noses to her trail, and following it exactly, some time after she had run out of sight. In the young greyhound the sense is much stronger than in the old kenelled dog, as might naturally be expected; and I am quite certain that a young dog may be entered to hare, fox, or deer, and taught to hunt either as well as any foxhound. In this respect there is a great difference in different breeds, but I should, of course, select that which would suit my purpose, only confining myself to the pure-bred greyhound, with only a slight cross of the bulldog, which so many good breeds already have. The last charge of idiotcy is still more cruel than that of want of nose; for we really have too much ability and cleverness rather than too little. In spite of all our precautions, dogs *will* run cunning, and yet Mr. Scrope accuses them of being born idiots. If they are allowed to associate with man and to use their faculties, they speedily become clever in the extreme; and many a poacher's dog is as

well bred a greyhound as any in the world, though from his exposure to hardship he is, perhaps, rough coated and dirty, or perhaps deprived of his tail. The cleverest poacher's dog I ever saw was one of this kind; he would work to his master's orders like any pointer, and brought his hares when killed for miles, refusing to allow any one to relieve him of his burden. This dog, if put upon the scent of a hare, would be certain to return with her, even if she took him through half a dozen covers; but his master seldom dared to try his powers in this way, for fear of his being seized or shot by the keepers. I have seen plenty of dogs which would do this, but few so accomplished as this one. No one, however, who knows much of the habits of the greyhound, would refuse to admit that he has sufficient intellect, if permitted to use it. He has certainly a deficiency in that love of approbation which makes the poodle, the Newfoundland, and the spaniel so anxious to please, that they exhaust all their powers of invention in finding out their master's wishes; but he has quite sufficient of this faculty or quality to induce him to try to please, and to exert his faculties in every way for that purpose. The courser, however, discourages all this, and wishes only to develope the tendency to run hares under certain laws, leaving all other faculties in abeyance, because if cultivated they lead the dog to husband his powers in such a cunning way as to interfere with those laws under which he is running. Thus, I have shown that the greyhound has plenty of courage, nose, and intellect, producing sagacity and docility; and that he has endurance, speed, perseverance, and size, cannot be denied; or that he has elegance and dignity. Many of our modern smooth dogs are equal in height, girth, and weight to the measurement of Buskar, recorded at page 109; indeed, one of the best modern dogs (Mr. Borron's Blue-light), is at least 27 or 28 inches high, with a girth of 32 inches. His weight, if in such running condition as to fit him for deer-stalking, certainly would be over 75 lbs. I could name many more of the same weight, though latterly the same dogs have not often been of such majestic proportions.

Proposed Breed for Deer-Stalking.—Believing that speed is too much sacrificed by the foxhound cross, I should certainly advise the selection of a good greyhound strain, crossed six or seven generations back with the bulldog. Mr. Scrope is mistaken in supposing that this cross causes a reduction of speed, and indeed many, with the late Mr. Thacker, fancy that it gives an increase to that valuable quality. There is, however, one inestimable point in deer-stalking which it affords—viz., the retaining the hold when once taken. This is very important, for a dog gets terribly mangled if he is constantly rushing in and grappling with the deer, and then as rapidly losing his hold. The bulldog cross, however, ensures his firm and tenacious grasp; and this peculiarity is remarkably developed in some greyhounds, which are obliged to be choked off their hares. The qualities to be looked for are, as stated by Mr. Scrope, size, strength, speed, courage, endurance, perseverance, nose, docility, sagacity, and beauty. Now if Mr. Scrope, or any other deer-stalker, will get hold of any of Mr. A. Graham's old rough breed of greyhounds, and cross them with such a smooth and large dog as Mr. Lawrence's Lopez, or Captain Besant's Black Prince, or Sir James Boswell's Puzzle'em, or Mr. Wilson's Jamie Forest, he will find that the produce if *well reared*, will have all the qualities above-mentioned in a higher degree than the cross he has so highly vaunted. But to ensure success, they must be well reared, and should have plenty of milk till three or four months old, and afterwards be fed with a liberal quantity of flesh and meal. They should also be accustomed to be taken out, and allowed to use their noses without restraint, always, of course, taking care to keep them under control when necessary. They will run anything, from a lark to an elephant, if they meet with such rare game; and the only thing necessary is to enter them to deer and keep them strictly to it. If this is tried, I fully believe that a breed of dogs will be obtained quite equal to the old Scotch deerhound, and much faster and bolder than the foxhound cross, with as good, or perhaps even a superior nose. The elements are in existence, and only require to be educated and developed to the full extent of which they are capable. Such, at least, is my belief, founded upon a very full acquaintance with the qualities of this noble animal.

Sect. 7.—Qualities Necessary in the Deer-Stalker.

It may readily be supposed, that for the pursuit of deer-stalking a hardy frame and plenty of pluck in the stalker are required. These qualities are indispensably necessary; but in all other points he may vary as much as the average of men are seen to do. The *model* deer-stalker, however, should be of good proportions, moderately tall, narrow-hipped to give speed, and

with powerful loins and well developed chest for giving endurance and wind. No amount of fat should be allowed; indeed, the deer-stalker ought to be in as good training as the racehorse or greyhound. The foot should be sure, and the eye keen and long-seeing, as the telescope cannot always be applied to that all-important organ. He should be practised in running stooping, in crawling on his belly or on his back, by means of his elbows and heels; and should care neither for business, nor cold, nor wet. The nerves should be good, for the excitement produced by this sport is such as to render unsteady the hand of all but those who are of the phlegmatic temperament. "Dutch courage" is not desirable, but "Dutch phlegm" will here serve in good stead. The bodily powers are not the only ones which should be well-developed, for the brain should be as active and energetic as the body itself. The red deer is as cunning an animal as any alive, and to circumvent him, all the resources of the mind of man must be called into play. The stalker must be full of plans and resources, yet cautious in putting them into execution, for many a well-matured scheme has been frustrated by some thoughtless act on the part of the schemer. Great control over the feelings is absolutely essential; for the giving way to the exultation of hope, or the depression produced by the fear of losing a shot, will generally cause that which is most to be apprehended. Above all, temperance must be practised—no shaking hand or flinching eye will serve the purpose of the stalker; nor will the parched throat or the perspiring skin avail him when rushing up the hill side or through the winding valley. In fact, strict training, in all its details, is required; and the more it is carried out, the more complete will be the success of the practiser of its disagreeable duties.

THE DRESS OF THE DEER-STALKER should be light and elastic, yet tolerably warm. For these purposes, the Scotch twilled-plaid is the best for the coat and vest, while the lower garments may be of somewhat stronger texture, yet still of wool. The head should be covered with a close-fitting cap, and the shoes should be studded with strong nails, to enable the foot to take secure hold of the slippery stones found in the burns and among the heather. A pair of leather gaiters should be worn also, as a protection against injury, and may either be put on under a pair of trousers, or worn with knee-breeches, according to the taste of the sportsman. The colour of all should be sober and natural; grey, or a mixture of black and white, being as good as any, since it accords well with the granite rocks which are so common in the haunts of the deer.

SECT. 8.—THE THREE MODES OF STALKING.

Thus, provided with glasses, rifles, gillies, and deerhounds, the stalker now has to commence operations on the red deer, which may be shot in three different modes,—1st, by quiet stalking; 2nd, by stalking in quick time; and 3rd, by driving.

QUIET STALKING. — The following is the mode of conducting this species of stalking, as described by Mr. Scrope:—One or two stalkers getting on their horses, proceed to the edge of the deer forest, where they leave them, and are joined by two or three gillies, and a brace of deerhounds in slips. The first point is to ascend the most likely mountain to its top, and that will be the one which commands the glens and hill-sides upon which the deer are most likely to be at that particular time. Having reached its summit, the stalker, or one of his men, should cautiously raise his telescope over its brow, and, applying his eye, should sweep the whole range presented to his view with deliberate caution. As soon as the deer is discovered, an attempt must be made to approach him, without being scented, seen, or heard; and this is well described in the following scene, which is extracted from Mr. Scrope's book, with some few abbreviations and omissions. The hart is just descried, and Tortoise (Mr. Scrope) thus speaks to his friend and pupil, Lightfoot:—"A noble fellow he is, Maclaren; I can just see his horns, and the point of his shoulders. It is a glorious chance, for once in the burn, we can get within a hundred yards of him, and that is near enough, in all conscience. Here, Lightfoot, look at the fine fellow; pull off your cap, and rest the glass on the stone." "Not the semblance of a deer can I see; but I'll take your word for it, I daresay he is there, since you say so. And now explain to me how you mean to get at him; communicate, my good fellow; for it seems, by all your caution, that even at this distance, you dare not show a hair of your head." "Creep back there behind the hill, whilst I mark the very spot in the burn which is opposite his lair. Well, now, I will tell you: we must go all round by the east, beyond yon hill, and then come up at the notch behind yon two hills, which will bring us into the bog; we can then come

DEER STALKING— A QUIET SHOT. P. 112.

forward up the burn, under cover of its bank, and pass from thence into the bog again by a side wind, when we may take his broadside—and thus have at him; so let us make the best of our way. It would be quite easy to get at the hart, if it were not for the hinds on the top of the hill; but if we start them, and they go on belling, the hart will follow them whether he sees us or not. Get your wind; he cannot. Maclaren, you will remain here, and watch the deer when I have fired. Sandy, follow you at a proper distance with the dogs; and come you along with us, Peter, and take the rifles. And now, my lads, be canny." The party then advanced, sometimes on their hands and knees, through the deep seams of the bog, and again right up the middle of the burn, winding their cautious course according to the inequalities of the ground. Occasionally the seams led in an adverse direction, and then they were obliged to retrace their steps. This stealthy progress continued some time, till at length they came to some greensward, where the ground was not so favourable. Here was a great difficulty; it seemed barely possible to pass this small piece of ground without discovery. Fraser, aware of this, crept back, and explored the bog in a parallel direction, working his way like a mole, while the others remained prostrate. Returning, all wet and bemired, his long, serious face indicated a failure. This dangerous passage, then, was to be attempted, since there was no better means of approach. Tortoise, in low whispers, again entreated the strictest caution. "Raise not a foot or a hand; let not a hair of your head be seen; but, as you value sport, imitate my motions precisely; everything depends upon this movement; this spot once passed successfully, we are safe from the hinds." He then made a signal for Sandy to lie down with the dogs, and, placing himself flat on his stomach, began to worm his way close under the low ridge of the bog; imitated most correctly and beautifully by the rest of the party. The burn now came sheer up to intercept the passage, and formed a pool under the bank, running deep and drumly; the leader then turned his head round slightly, and, passing his hand along the grass as a signal for Lightfoot to wreath himself alongside of him, said, "Now, my good fellow, no remedy—if you do not like a ducking, stay here; but if you do remain, pray lie like a flounder till the shot is fired. Have no curiosity, I beg and beseech you; and speak as I do, in a low whisper." "Pshaw! I can follow wherever you go, and in the same position too." "Bravo! here goes, then; but if you love sport, do not make a splash in the water, but go in as quiet as a fish, and keep under the high bank, although it is deeper there—there is a great nicety in going in properly; that is the difficult point. I believe it must be head foremost; but we must take care to keep our heels down as we slide in, and not to wet the rifles. Hist! Peter, here, lay the rifles on the bank, and give them to me when I am in the burn." Tortoise then worked half his body over the bank, and, stooping low, brought his hands upon a large granite stone in the burn, with his breast to the water, and drew the rest of his body after him as straight as he possibly could. He was then half immersed, and getting close under the bank, took the rifles; the rest followed admirably; in fact, the water was not so deep as it appeared to be, being scarcely over the hips. They proceeded in this manner about twenty yards, when, the ground being more favourable, they were enabled to get on dry land. "Do you think it will do?" "Hush! hush! he has not seen us yet; and yonder is my mark; the deer lies opposite it to the south—he is almost within gunshot even now." A sign was given to Fraser to come alongside, for they were arrived at the spot from which it was necessary to diverge into the moss. In breathless expectation they now turned to the eastward, and crept forward through the bog, to enable them to come in upon the flank of the hart, who was lying with his head up-wind, and would thus present his broadside to the rifle when he started; whereas, if they had gone in straight behind him, his haunches would have been the only mark, and the shot would have been a disgraceful one. Now came the anxious moment. Everything hitherto had succeeded; much valuable time had been spent; they had gone forward in every possible position: their hands and knees buried in bogs, wreathing on their stomachs through the mire, or wading up the burns; and all this one brief moment might render futile, either by means of a single throb of the pulse in the act of firing, or a sudden rush of the deer which would take him instantly out of sight. Tortoise raised his head slowly, but saw not the quarry. By degrees he raised himself an inch higher, but Peter plucked him suddenly by the arm and pointed. The tips of his horns alone were to be seen above the hole in the bog—no more. Fraser looked anxious; for well

he knew that the first spring would take the deer out of sight. A moment's pause, when the sportsman held up his rifle steadily above the position of the hart's body; then making a slight ticking noise, up sprang the deer—as instantly the shot was fired, and crash went the ball right against his ribs, as he was making his rush. Sandy now ran forward with the dogs, but still as well concealed by the ground as he could manage. "We must louse a dog, sir, or he will gang forrat to the hill." "Let go both of them; it will be a fine chance for the young dog; but get on a little first and put him on the scent—the deer is so low in the bog that he cannot see him." Fraser now went on with the hounds in the leash, sinking and recovering himself, and springing from the moss-bogs, till the dogs caught sight, and they were slipped; but the fine fellow was soon out of the bog, and went over the top of the Mealown. On following over the hill, the voice of the hounds broke full upon the stalkers, and they saw the magnificent creature standing on a narrow projecting ledge of rock within the cleft, and in the mid course of a mountain cataract; the upper fall plunged down behind him, and the water coursing through his legs, dashed the spray and mist around him, and then, at one leap, went plump down to the abyss below; the rocks closed in upon his flanks, and there he stood, bidding defiance in his own mountain hold. Just at the edge of the precipice, and, as it seemed, on the very brink of eternity, the dogs were baying him furiously—one rush of the stag would have sent them down into the chasm; and, in their fury, they seemed wholly unconscious of their danger. All drew in their breath, and shuddered at the fatal chance that seemed momentarily about to take place. Of the two dogs at bay, Derig was the most fierce and persevering; the younger one had seen but little sport, and waited, at first, upon the motions of the older, nay, the better soldier. But his spirit being at length thoroughly roused, he fought at last fearlessly and independently. Whenever the deer turned his antlers aside to gore Tarff, Derig seized the moment to fly at his throat; but the motions of the hart were so rapid, that the hound was even compelled to draw back, which retrograde motion brought him frequently to the very verge of the precipice; and it was probable that, as he always fronted the enemy, he knew not, or, in the heat of the combat had forgotten, the danger of his situation. At this stage it was necessary to act speedily; and Tortoise having at length gained a spot which commanded a view of the stag, prepared to pour in a final shot. Three times the rifle was raised, but each time the aim was abandoned from fear of wounding the dog, or missing the deadly spot. At length an opening; the crack was heard faintly in the din of the waterfall—the ball passed through the back of the deer's head, and down he dropped on the spot without a struggle. The dogs now rushed forward and seized him by the throat, and were obliged to be choked off. The men came cautiously on, and began to lift the huge animal out of the water, two at his fore and the same number at his hind-quarters. At last they laid him on the grass, then plunging the long knife into his throat, and opening him for the purpose of gralloching him, his head was bent back on his shoulders, a black flag was tied to his horns to scare away the ravens, a little gunpowder was shaken over him, and he was left to be sent for on the next day with the aid of the forester's pony. Such is the account of stalking this animal in quiet style; let us now see the nature of the second mode adopted.

STALKING IN DOUBLE-QUICK TIME.—This is practised upon a somewhat different principle to quiet-stalking, and is intermediate between that species of sport and the driving of the deer, which is only practised on rare occasions, and for high and mighty personages. Both these latter plans disturb the deer so much that they would, if often adopted, scare them, and drive them all off to other forests; and, therefore, the quiet-stalking is that usually preferred. It is practised by sending one, two, or three gillies, after the discovery of the deer by means of the glass, as before, to such points as shall induce them to move off towards the sportsman, who, when forewarned of their approach by the signal of the hill-men, rushes upon them as they pass a certain point most favourable for the purpose, and fires his rifles, furnished to him one after another by the attendant. Two or three points are here of great importance: first, that the gillies sent on should only allow the wind to convey their scent to the deer, and should not actually show themselves to their sight; secondly, that the leading hinds should always be suffered to pass before the rush is made, because, otherwise, the herd would stop short and return the way they come, or up some side ravine, instead of passing by the expectant stalkers. Great experience and tact are necessary in the gillies; and, after all, upon them more than upon the principal depends

the success or failure of the attempt. It is all very well to fancy that they are acting under orders, but, even according to Mr. Scrope's own showing, they are obliged to use their own wits, and to have recourse to fresh expedients on every change of direction taken by the deer. No signalling can be carried on, because they are out of sight of the party and of one another; and all must act independently, though still in combination, for a specific object—viz., the *gentle* compulsion of the deer towards a spot near which the stalkers are lying in wait. Mr. Scrope's description of a scene in which this mode was adopted, is quite as characteristic as that which I have already extracted. Its great length, however, must prevent my doing more than to give a part of the narrative. The gillie, Maclaren, has been sent off about half an hour, and Tortoise and Lightfoot are waiting behind a projecting rock, with the deerhounds and rifles attended by Peter. Lightfoot *loquitur*: —"What beautiful creatures! They are all standing up, and gazing at the summit of the hill. How stately the stags look, with their jutting necks and towering antlers! Are you sure they are not elks? By Hercules, I think they are. Now they are moving forward to the hind in advance, which you seemed to have such an antipathy to. What in the world makes them shift their quarters?" "Why, Maclaren is nearly opposite to them, but at a great distance above, behind the swell of the hill; and, doubtless, has just shown the top of his bonnet over the sky-line; but they are all going wrong, and do not seem inclined to accommodate us." "They are not much alarmed, I think, for now they are standing still, and the hind has walked back a few paces, and is gazing up the hill again; the others seem to watch her motions, and to be guided by her judgment, whilst the harts appear to give themselves very little trouble about the matter." "No, the lazy rascals! but we may rouse them yet. Yes, they are alarmed, or, more properly speaking, suspicious. They have that sort of discretion which makes them run away in cases of danger; but you can never frighten them out of their wits with so small a force as ours. They are deliberately trying to make out what is going on, before they decide upon the direction of their retreat, and are too proud to fly without evident cause. But, just keep your eye upon them; Maclaren will not let them off thus: he will make a push for it at any rate." And so it seems he did, for in a few minutes they turned aside, and came a little way down the hill, gazing more towards the south. "By Jove, they are turning! Capital! Well done, Maclaren!" "Doubtless, when he saw the deer going southwards, he slipped back behind the hill, ran like an antelope, and then came in again over the sky-line, and showed himself partially more in front of them. I may as well tell you, that if the hillman had come down right upon them in the first or second instance, and endeavoured to drive them as one drives sheep, they would immediately have raced away straight south, right up the wind, and have soon been out of our cast." Peter now pressed his master's arm, and pointed: "Did you no see yon parcel of hinds—these towards the shank of our hill? They canna choose but join them; and they will come, but it will be low doun." And now the gillie, who had a clear view of all these things, began to set to work in earnest. He passed forward rapidly, still out of sight of both parcels of deer, till at length, when he came sufficiently forward, he dashed down the hill in full view, shouting, hallooing, and hurling stones down the mountain with all his might—going to and fro as the deer shifted—slipping, clambering, and tumbling in such perilous places as would have endangered the life of a mountain goat. The hinds last-mentioned, which were opposite them on Ben-y-venie, collected and whirled about, much admiring what all these strange noises might portend. Now had the decisive moment arrived, when the thing must terminate either one way or the other. Whilst this was doing, the stalkers were preparing for their work. Tortoise pressed his friend's arm—"Now then, or never! Creep back quickly, and prepare for action; for, by Herne the hunter, they are coming;—low, low, for your life! We must get on to that large stone, and they will all come into our very mouths. Now, then, forward! Take this rifle, and hold well at the best antlers when time shall serve; be steady, and fire well forward, taking care not to drop the gun when you pull the trigger." The clatter of hoofs was heard, as they were picking their way obliquely along the rocky ridge; but how uncertain are all the chances of the chase—instead of coming on, they turn away. "Come along, your best pace, Harry, for the hinds are startled, and our parcel is racing up to them; keep you above me, which will save you ground; and Peter, do you stalk the deer, and I will stalk you, which will give me a pull also. We will make a push for it yet." In pursuance of this arrangement, Fraser peered down at the

deers' horns, over the ribs of the hill side, ducking, skipping, and running, so as to keep out of their sight, and nearly alongside of them; the riflemen above keeping parallel to him, and dressing according to his motions. The deer, however, were steady to their tactics; for they were resolved not to come over the steep part of the hill, when, by losing the wind, they might come unawares on an enemy; thus they come, rapidly advancing towards the point of the hill where the slope was so open and gradual, that they could see a long way in advance, and, consequently, could not be suddenly surprised. Tortoise now changed his tactics, and turned suddenly to the right, going rapidly over the hill in a new direction; for as the herd had never seen him, nor any of his party, he judged they would remain, for some time at least, on the round swell of the hill below, which they were now approaching. Here Lightfoot was obliged to give up, and remain behind; but his absence was not noticed by Tortoise in the heat of the advance; after a short time, however, he again followed behind. And now Tortoise and Peter had reached the crags on the opposite side of the hill towards the west. Here was an absolute precipice, and large angular stones were lying down it with their edges uppermost. Happy was the foot that did not slide down on their sharp ridges, and charmed was the leg that was not either cut or broken by them. Tortoise had forgotton his companion, so completely was he absorbed in his occupation. The struggle now was to get under the hill on the side opposite to that where the deer were crossing, so as to arrive there in time to take them as they passed over the boll of it, still preserving the wind. Arrived at length at this desired spot, breathless, flushed, and covered with perspiration, they crept forward, and wound themselves through the heather, till, from behind a small knoll, they saw the deer feeding forward very leisurely, but still restless, and with their sentinels looking back towards the east. Tortoise now thought of Lightfoot left behind. "Here is a glorious chance," said he, "and I would not have him lose it on any account." At this moment he was descried approaching along a very precipitous and difficult path. Davy was sent back to assist him, and at length succeeded in bringing him up. Fraser, who had been peeping from time to time through a bunch of heather, now pressed Tortoise's arm, and whispered, "Be ready --they are coming." Both were lying flat on the heather, with the rifles on the ground, on one of which Tortoise had his hand; but as yet he did not raise it. They lay still as death, till some hinds passed within an easy shot: next came a four-year old hart, which was suffered to pass also; the better harts were following him in the same direction, and the points of their horns were just coming in sight when, lo! Lightfoot, who had that moment come into the ground, fired at the small-hart which was galloping away gaily, and gaily did he still continue to gallop. The injudicious shot struck woe and dismay into the soul of Tortoise. Up he sprang, and dashed forward, but it was only to see an antler or two vanishing out of sight under the swell of the ground; still he went on as fleetly as ever he ran in his life, cutting off to the point where he expected the deer would reappear in crossing the bottom. Here he stopped short, and taking a deliberate aim, the peculiar swash was heard which tells that the bolt has struck its mark. The whole party now lay quietly down, and Fraser was set to examine the herd as they passed up the opposite heights, and to keep his eye on the wounded hart. This is the surest way of recovering him; for, if you press him, and he is not hit deadly, he will get forward into the middle of the herd whilst his wound is fresh, and run with the other deer in such a manner as will, most probably, occasion you to lose him; but if thus managed, his wounded part has time to stiffen, he slackens his pace, and generally falls out from the rest of the herd, if badly wounded; whilst, if only slightly wounded, you must lose him at any rate. "Now tell me, my wayworn and much-injured friend, what made you shoot at that little deer?" said Tortoise, as soon as he had time to cool. "A little deer! a little deer! *Haud credo*, I thought he was an enormous monster." "I must reply as Master Dull did to the erudite Holofernes—'Twas not a *haud credo*, 'twas a pricket. Extremely juvenile he is, but you will soon learn to distinguish better." A dog was now slipped, and the deer finally retrieved, much as in the last described chase. Here again, the chief part is performed by the gillies:—Tortoise and Lightfoot play the subordinate part, except in being permitted to use the rifle, which is only another species of genteel butchery. However, this must be said *sotto voce*, because, while deer-stalking is so fashionable, it will always be prized, for such is invariably the case in all societies.

Driving Deer.—There is very little

MR. RANDELL'S RANTER AND RIVAL —A PRIVATE TRIAL AT CROOME PARK, IN OCTOBER, 1854. P. 117.

difference between the principles on which this sport is conducted, and those adopted in the quick-stalking. The chief points in which they are unlike is in the number of hill-men employed, the number of deer driven, and the number of stalkers placed in ambush. In all these respects deer-driving has the advantage of a considerable superiority—that is to say, if sport is to be measured by the number of its victims, as is the case in most instances. The pheasant-shooter and the wildfowl-shooter are both discontented with a small bag; and by a like desire for blood the deer-stalker is stimulated when he hopes for the death of tens, twenties, or hundreds, instead of single victims to his skill. In deer-driving on the large scale a great number of men are sent out, and by commencing at the extreme boundary of the forest, at stated distances apart, and gradually approaching the pass up which the deer are to be driven, all those within this circle are pressed on till they arrive at the point desired. In this progress the men have become much closer together, and in proportion as the deer accumulate, and the difficulty of pressing them on has increased, so has the number of men, in proportion to the ground covered, increased also; thus, supposing the semicircle first included was 10 miles in diameter, then the semicircle itself would be 15 miles in extent, and would require 120 men in order to give one to each furlong. But when the pass to which they are to be driven is only half-a-mile across, the semicircle would be reduced to three-quarters of a mile, giving one man to every 11 yards; and, if only a quarter of a mile, one man to every 5½ yards. Such a *cordon* would be difficult to break, one would think; but, nevertheless, the deer, when alarmed in front, often wheel round and charge the drivers. Such an accident is well described in Sir Walter Scot's "Waverley," and the scene given in Cooper's "Smuggler" is also a good representation of one of those grand affairs. To these novels and to Mr. Scrope, I must however refer the reader who wishes to follow out this sport. It is one only adapted for princes; and those who are admitted to its pleasures should peruse the spirited descriptions presented by the above novelists, and by that practical sportsman Mr. Scrope. Most of us would, I have no doubt, enjoy the diversion, valuing it the more for its rarity; but for any other attraction, I confess I look in vain; excepting always the wild and picturesque scenery which its prosecution presents to the eye.

PART I.

THE PURSUIT OF WILD ANIMALS FOR SPORT.

BOOK II.—HUNTING.

CHAPTER I.

MATERIÉL NECESSARY FOR HUNTING IN GENERAL.

SECT. 1.—THE GAME TO BE HUNTED.

HUNTING may be defined to be the pursuit of certain wild animals, by means of a pack of hounds, following by scent. The animals hunted are—first, the red deer; second, the fallow deer; third, the roebuck; fourth, the fox; fifth, the hare; and sixth, the otter. The badger and marten are also hunted in some districts, but never, as far as I know, by a regular pack of hounds; and their pursuit will not, therefore, come under the above definition.

THE RED DEER (*Cervus Elaphus*), has been already fully described at page 104, under the chapter on Deerstalking. It is hunted in certain parts of England in a wild state, and is also sometimes turned out before a pack of staghounds, after being deprived of his horns, if a male, and taken to the meet in a deer-cart.

THE FALLOW DEER (*Dama Vulgaris*), is usually met with in our parks, where large herds are generally congregated, and form those pleasing groups which add so much to the effect of the beautiful scenery peculiar to Great Britain. It differs from the stag in size, being less, and in the form of the horns, which also are smaller, and flat instead of being round; they are also broader, palmated at the ends, and better garnished with antlers. The red and fallow deer never mingle together, even when confined in the same park, avoiding one another most carefully, and never breeding together. The rutting season also in the latter is a fortnight or three weeks later; and the males at that time are not nearly so furious and excited; hence they are better suited for our parks, and the neighbourhood of man. They breed at two years, and bring forth one, two, or three fawns. They come to maturity at three years, and their average age does not exceed twenty. Fallow deer are easily tamed, and may be readily induced to follow their keeper into any crowd, which they speedily get accustomed to. At the rutting season, however, they are sometimes troublesome, and should then be carefully confined, or they may injure children or infirm persons, more especially those who show a fear of their horns. In England there are two varieties of the fallow deer—the spotted deer, said to be of Bengal origin, and similar to the AXIS or CHEETUL (*Axis Maculata*), and the dark, self-coloured brown, which is supposed to have been introduced from Norway by James I., who was devoted to the chase, and especially to stag-hunting. Fallow deer, when hunted, are always turned out of a cart; and their horns are generally removed when the buck is the object of pursuit.

THE ROEBUCK (*Capreolus Capræa*), was formerly common throughout England, but is now chiefly met with in Scotland, north of the Forth, though it is occasionally found still in Dorset and Devon. Its extinction in the southern parts of this island is owing to its dislike of confinement, not bearing even the walls of our parks. It will not admit of being tamed, and is very savage and morose when in close confinement. It is much less than the fallow deer, being only 24 inches in height; and it is even more elegant in its shape and movements. It is not gregarious, but lives singly, or in pairs, and drives off its young at nine or ten months of age. The horns are short and small, divided into three small branches, not palmated, and they are seldom more than a foot in length. This deer is seldom hunted; unlike the stag which is found on the bare mountains, it prefers the thick underwood of large forests; and it is only on rare occasions that it can be driven into the open lowlands and hunted with a pack of hounds. The rutting season is at the same time of the year as in the stag, but it continues as

long as in the fallow deer. The female goes with young five months and a half, and brings forth two or three fawns. The term of life is not more than fifteen years.

THE FOX (*Vulpes Vulgaris*), has been already described as a species of vermin; in which capacity its destruction has been permitted, and even enjoined. Here, however, he reappears as the cherished object of the sportsman's care, and no animal is so jealously watched and tended as is Mr. Wiley, in the best fox-hunting districts. Coverts are made on purpose, often at great expense, and kept undisturbed solely for his use. His ravages in the pheasant preserve and hen-roost are overlooked, and the man who injures him is considered to have wounded the feelings of the whole hunt, and sullied his own honour. Nothing but this universal *esprit de corps* could have saved the fox from annihilation. Like the wolf, but for this protection, he would long since have been among the things that were; and the glorious sport he gives us would be impossible, for want of the necessary animal to hunt. Foxes are found of two or three varieties in the hunting districts, besides the hill-fox of Scotland, which is well calculated for showing sport before hounds, if the country would admit of horses. These varieties are—the greyhound-fox, a large, tall, and fast animal, of a greyish-red; the bulldog fox, thicker and darker-coloured, with a heavy head; and the smaller, redder, and more compact fox, which has been, and still is, imported from France or Germany. All these several foxes have the end of the tail black when young, and becoming white in after years. I have already enlarged upon the preservation of foxes, and the means by which the keeper may satisfy both the pheasant-shooting and fox-hunting tendencies of his master. The fox burrows underground, in what is called his "earth;" and the vixen produces from four to six cubs at a birth, once a year—generally in April or May. When cubs are turned down in the summer, they require regular feeding and looking after for some time, as they are unable to get their own food, from a want of parental teaching. In process of time, however, instinct prompts them, and they gradually learn to provide for themselves. A want of this precaution has caused the loss of many litters of cubs, procured at great expense and trouble.

THE HARE (*Lepus Timidus*), is too well known to need a full description. For hunting purposes she is well suited, because her instincts are so remarkably well developed in showing her how to foil the pursuit of her enemies. She doubles and returns upon her trail in a way which seems to prove the existence of reason; and sometimes even swims down a river to escape her pursuers when hard pressed.

There is a variety peculiar to Scotland, the SCOTCH HARE (*Lepus Variabilis*), and also an IRISH HARE (*Lepus Hibernicus*). The former is somewhat, and the latter much, less than the English hare; they are both, however, fast and stout; but the mountain hare of Scotland, which is the one alluded to above, is not well calculated for hunting or coursing, having instincts very different from the ordinary Scotch or English hare.

THE OTTER (*Lutra Vulgaris*), has already been described at page 11.

SECT. 2.—HOUNDS AND THEIR MANAGEMENT.

THE VARIOUS KINDS OF HOUND were formerly much more distinct than at present. Nothing can be much more unlike the old southern hound or bloodhound than the diminutive beagle; and almost the only point of resemblance is the exquisite power of scent which both possess. At present, hounds may be divided into — first, bloodhounds; second, staghounds; third, foxhounds; fourth, harriers; fifth, beagles; and sixth, otter hounds.

THE BLOODHOUND, SOUTHERN HOUND, or TALBOT (See *Art.* "DOG"), is still met with in England, but it is entirely superseded by the foxhound or harrier for all the purposes of the chase. In parks, however, it is still used for singling out certain deer, and running them down, when they are to be taken for the purpose of hunting or for stall-fattening, or for removal. Here great caution is required, as the bloodhound is a dog which cannot be kept under command; and no whip or rating will prevent his gratifying his desire for blood when he has the opportunity. His nose, however, is so perfect, and he has so completely the power and the instinctive desire to keep to the hunted deer, that he will follow it through the whole herd, and pass them by regardless of their attractions. He has been also, and still is, used for hunting sheep-stealers and thieves of all kinds, and must then be muzzled. Besides his intractability, he is also comparatively slow, and the fox or stag-hunter of the present day would not require his thoroughbred horse to keep pace with his movements, but would vote him "a potterer," and would be more inclined to ride a steeple-chase home than to watch his slow hunting. In size, he is the

largest of the hounds, being about 27 or 28 inches high at the shoulders, and often weighing 80 lbs. The colour is generally black and tan, with a great preponderance of the red—which is, moreover, more yellow than red; but in the Talbot and sleuth-hound the yellow and black-pie was the usual colour. The head is very handsome; ears large, soft, and pendulous; jowl square, and lips well developed; nose broad, soft, and moist; and eyes lustrous and beautifully soft when in an unexcited state. This dog is nearly identical with the Talbot, and old southern or sleuth-hound, of which we now have no pure representative; but they may be said to be one variety, and to be the stock from which the staghound, foxhound, harrier, beagle, and otter-hound have been all bred.

THE STAGHOUND AND FOXHOUND may be considered as the same, the former being only a larger variety of the latter; but though originally descended alike, they are not now bred from the same strains indiscriminately. As with the old deer-hound and greyhound, so with these hounds, although their organization and appearance are identical, yet from being entered and kept for many generations to different game, they are to be readily distinguished by their style of hunting. Nevertheless, no one could say where the line which divides them passes, and it would be impossible even for Mr. Davis to distinguish a large spiry foxhound from one of the smallest and lightest of her Majesty's beautiful pack. The staghound, therefore, may be considered as a large foxhound, or the foxhound as a small staghound; the one devoted to the hunting of deer, the other to that of the fox.

THE ORIGINAL STOCK of these two varieties of the hound is undoubtedly the southern hound, bloodhound, or Talbot. But in process of time, when the country was cleared from forest, and more speed was required, and when the horse could be used in order to keep pace with that increased speed, a faster hound was sought for, and the old-fashioned, deep-toned, and careful hound was bred, which has been immortalized by the verse of Somerville and the prose of Beckford. These were faster than the southern hound, but still slow compared with the modern foxhound. In those days the cold scent of the morning drag was hit off by the hound, and the fox was hunted up to his retreat in the woodlands before he had time to digest his nocturnal meal, or to sleep off his fatigue in procuring it. Hence, nose was all in all; and the fox being full of food, could not go the pace which he now does at eleven or twelve o'clock, eight or ten hours after his belly was filled with the fat capon or the wary old "rooster," as our transatlantic friends denominate the dunghill cock. It is not fully known by what crosses this increase of speed was obtained; the subject was formerly enveloped in much mystery; and masters of hounds were embued with a very different spirit to that which prevails among them in the present century. But there is strong reason for believing that the greyhound, and, most probably, the old Scotch deerhound, were had recourse to, either directly or through the northern hound, which was a decided cross of the southern hound with the deerhound. In her Majesty's pack most of the hounds are fully 26 inches in height, and the bitches at least 24; they have broad short heads, with straight hind legs, well furnished thighs, and sterns more feathered than is often seen in the ordinary foxhound. They have very delicate noses, can hunt a cold scent, and yet with a blazing one they run breast high, but not quite so fast as some of our packs of foxhounds when the scent is good. The deer's foot-scent is not good; but he leaves a strong body-scent, which falls to a certain height, according to the state of the air, and is readily owned by the staghound. The endurance of this dog is great, but not perhaps equal to the foxhound, as is to be expected from his greater size and weight. Few packs of staghounds could bear the road-work which most foxhounds undergo besides their runs, which are sometimes two or three in the day; they also escape altogether the work in covert, which is most trying to the lesser hound. Even where wild deer are hunted they are "unharboured" by slow hounds of the old breed. Consequently, the actual chase is all that is committed to the staghound, together with the road-work to the meet—generally pretty near the kennel; and the homeward journey, which, however, is often a long and dreary one, but not, as in the foxhound's case, prolonged into the night.

THE MODERN FOXHOUND is a most extraordinary animal; fast almost to the same degree as a slow greyhound, he has extraordinary stoutness and power of endurance, with a hardy constitution. To these invaluable qualities he adds a good nose, not quite equal, however, to a cold scent; with great docility, when considered in conjunction with his courage and dash. With regard to his origin, there is strong reason for believing, as with the staghound,

that he is the old southern hound crossed with the greyhound, with perhaps a dash of the bulldog; but here, again, all is conjecture, and we can only guess at his origin from his form and peculiarities. Beckford describes the model hound as follows:—"Let his legs be straight as arrows; his feet round, and not too large; his shoulders back; his breast rather wide than narrow; his chest deep; his back broad; his head small; his neck thin; his tail thick and bushy—if he carry it well so much the better . . . a small head, however, as relative to *beauty* only; for, as to *goodness*, I believe large-headed hounds are in nowise inferior. . . . . The colour I think of little moment, and am of opinion with our friend Foote, that a good dog cannot be of a bad colour."—p. 49. To this must be added a point of great importance, which has been insisted on by Nimrod—namely, the length of the back-ribs, which, as in the horse, should be well developed, and firmly fixed to the hips by strong muscles. Nimrod also very properly insists upon length of thigh, and good strong stifles, without which speed cannot be long maintained. This description will avail equally well in the present day, although written more than fifty years ago. He also recommends a middle-sized hound, neither too large nor too small; but, like many other writers on sporting subjects, he does not further define what he means by giving the middle height of the foxhound, or even the extreme ranges to which they go. I think that 24 inches for dogs, and 22 for bitches, will be found to be about the outside height which will be desirable for fast and open countries; while in strong woodlands, with much work in covert, an inch less will be desirable, because the large hound has more difficulty in following out the runs traversed by briers, &c., than the dog a size smaller. The quickest pack I ever saw, and that which worked in covert the best, was Lord Redesdale's, hunting the Heythrop country, which were not more than 23 inches, dogs, and 22 inches, bitches. This pack, however, went like birds, and flew the stone walls as well as a greyhound. Indeed, the contrast with Earl Fitzhardinge's larger hounds hunting the same district during part of their season, was, I think, much in favour of the little ones. They were, certainly, the most beautiful pack, to my taste, which I ever saw; and so unusually "suity," as to please the eye in that particular in a way which no larger hounds could be expected to do. It is always easier to draft large hounds than small ones down to a certain size; and, consequently, a small-sized pack can be kept much more level than a larger one; and the difference also between the sexes being less marked, they look better when the dogs and bitches are hunted together.

THE HARRIER AND BEAGLE may be taken together, since they are now bred one with the other so much that it is difficult to say what are harriers and what beagles. The latter is the more specific breed, and may therefore with advantage be first examined. It should be remembered that the hare, unlike the fox, is constantly "doubling," that is, returning upon her track, and thus endeavouring to foil her pursuers; for this reason, an exquisite nose is required, with great patience, and considerable cunning, to meet artifice by artifice. Hence, the hare-hound must differ from the fox-hound, in possessing an acuter sense of smell, a slower pace, less dash, and more patience; he must also be able to distinguish a "heel-scent," as he may otherwise return upon the hunted line, fancying he is following a "double" of the hare. One other point, also, is of vast importance—he must "pack closely;" for as the hare so often doubles back, if the hounds are all over the field the chance of foiling the "double" by their own scent is increased when they spread widely. The beagle, as embodying all these points in perfection, is, therefore, the model hare-hound of the old school; and has also lately been re-introduced in high quarters, being a great favourite at Windsor. In size the beagle measures from 10 inches, or even less, to 15. In shape they resemble the old southern hound in miniature, but with more neatness and beauty; and they also resemble that hound in style of hunting. No scent is too cold for them, and they can work out, in all its windings and foils, that of the most cunning old hare, if allowed time to do it. Nothing is more beautiful than to watch the working of these diminutive hounds; and I trace my first fondness for hunting and the sports of the field to the occasional sight of a pack of them belonging to the father of a school-fellow of mine, Mr. Harding, living near Dorchester. The extraordinary style of these little beagles I have never seen surpassed; but I fancy there was more in the mode of hunting, than in the hounds themselves. They were never lifted, and rarely cast, but left to work out their scent in their own way; and, consequently, their brains were thrown upon their own resources, and very rich those stores certainly were. Often have I seen them apparently consult, and then, without the

slightest *external* cause, hit off the scent as if by mutual inspiration, and carry it on without a check for a mile or two. Slow they were, at least so slow that we could keep up on foot by cutting corners, &c.; but at times, with a blazing scent, they would race away from us. I would that I could now catch a view of their graceful forms. The head and ears of the beagle are much broader, and the ears longer, than the fox-hound—very nearly approaching to the bloodhound in development; the legs shorter, and the body bigger and stouter. He is a very hardy little dog, and will stand an immense deal of work. At the two extremes of the beagle subdivision stand the dwarf beagle—a little smooth lapdog, with very long ears, and almost pug nose; and the fox-beagle, resembling the foxhound in all but size and dash. The essence of the beagle is the freedom from this quality, and it should never, on any account, be permitted to be displayed. Patience, co-operation, freedom from jealousy, goodness of nose, and Lilliputian dimensions, are, in fact, the essential qualities of the beagle. There is an air about them which the sportsman recognises, but which is very difficult to describe; nevertheless, there it is, and a comparison will soon show it. Besides these, there is the rough beagle, a variety of the rough Welsh harrier, and possessing the old mellow tone of the southern hound. We may, therefore, sum up the varieties of this little hound as—first, the medium beagle, which may be either heavy and southern-like, or light and northern-like; second, the dwarf or lapdog beagle; third, the fox beagle; and fourth, the rough or terrier beagle.

The Harrier is now a crossed animal, bred in all sorts of ways, and varying from 21 inches down to 15 or 16. In looks more like the foxhound than the beagle, he has some remnants of his old breed in the longer ears, wider head, and stouter body which he possesses. He should, however, have a most delicate nose, even more so than the beagle; for as his increased size carries him faster over the ground, so he is more likely to overrun the scent, and foil it so that he cannot recover it. Some of these hounds, however, have a wonderful power of carrying a scent at full speed, and will race into a hare in such a time as to finish her up almost as soon as found; this, however, spoils sport in great measure, as, by their speed, they prevent all those artifices on the part of the hare which give zest to this otherwise slow amusement. For this reason it is that harriers appear to have as good noses as beagles, though they really have not; for by depriving the hare of scope to double back, by pressing so closely upon her scut, they give themselves much less to do, and have only to work out a straightforward scent. Many huntsmen of harriers now cast forward as if hunting a fox, and with reason too; for as the hare *cannot* double back, she tries all her wiles in a forward or side direction—hence the alteration in the principles called for by the alteration in the speed of hounds. It is, however, in my opinion, an alteration for the worse; and I hope that as hare-hunting becomes more common, as will most probably be the case, that beagles, rather than harriers, will be the hounds selected. From an hour to one hour and a quarter is the proper average time to kill a hare in; she then has a quarter of a mile law all through, and stops and pricks up her ears, and considers, and then doubles and doubles again, and resorts to all sorts of expedients, which try the powers of the little animals behind. The pack, which is shown in the cut hereafter with the chapter on Hare-Hunting, is a cross of the beagle and foxhound; they are from 16 to 17 inches in height, can go quite fast enough to keep horses galloping, and can give a good account of nineteen hares out of twenty, having indeed killed fifty-one in the season of 1854–5. They are of the late Lord Sefton's blood, and such hounds I should like to see throughout England, kept at little expense, and affording amusement to hundreds on horseback and on foot.

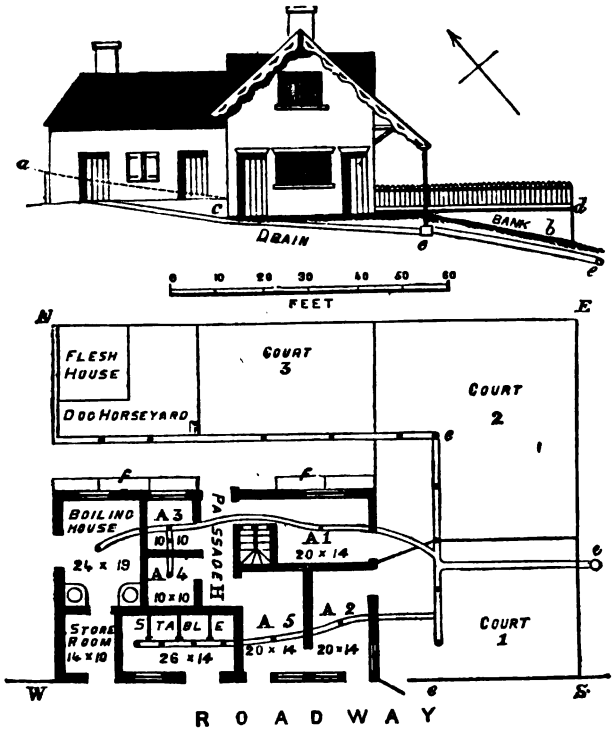
Otter Hounds are nothing more than the old southern hound, kept for generations to the hunting of the otter.

Sect. 3.—Construction of Kennels.

The Kennels form a most important item in the management of a pack of hounds; and much controversy has arisen on the subject; the chief points of difference in opinion consist—first, in the soil upon which they are built; secondly, on their aspect; and, thirdly, on their formation and ventilation.

The Soil for Kennels should certainly not be a porous one. Sand is the very worst possible stratum for the purpose, since it absorbs and retains all the excrementitious particles which the dogs must pass whenever they leave their kennels, either in their yards or grass courts. A cold clay is perhaps too much in the other extreme, since it is always accompanied by a raw and damp atmosphere; and is on that account prejudicial to health. Of the two extremes, how-

PLAN OF FOXHOUND KENNEL.



ever, it is, I think, the better; and I should build on clay in preference to gravel. Marl is the best stratum for the purpose, or chalk, which does not absorb to the same degree as gravel. Either of the two last is well suited to the purpose, and one or the other may be procured in most districts.

THE ASPECT is all-important; sun is necessary to the health of all animals, and is doubly so to the dog, yet an afternoon sun is too hot, and causes the sleeping-room to be uncomfortably warm in the height of summer. A south-eastern aspect therefore should be chosen, well sheltered from the east and north by plantations or hills, but not so much so towards the former direction as to shut out the morning sun. The gently sloping side of a hill therefore which looks to the south-east may be selected, and the kennel built facing in that direction, by which means the drainage will all be carried off out of the way of the yards and sleeping-rooms; and the yards themselves may easily be levelled and drained laterally so as not to interfere with the kennel. This will be better understood by the annexed diagram, in which the dotted line *a b* indicates the old level, and *c d* that of the yards and kennel, with a good trapped drain at *e e*, into which both yards and lodging-rooms are washed and drained. By this arrangement the internal parts are kept high and dry, and are cut off from all damp by the drain between them and the open yards. The morning sun

has full power, and gives health sufficient for all purposes, whilst in the heat of the afternoon the doors may be thrown open, and the interior is all in shade as well as great part of the yard.

In the Construction of the Kennel, one grand point is to select materials which will not absorb either the moisture or noxious effluvium emanating from the hound. They should be therefore either hard stone or flints or well-burnt and hard bricks. Sandy and porous bricks make the very worst walls for kennels possible, and should carefully be avoided. Next, as to size and shape:—the former must depend upon the number of hounds; but, as it is easier to build a large kennel originally than to increase it when once built, it is as well to calculate upon one which will hold forty couple of hounds, the number which will suffice for stag or fox-hunting three or four days a week. For such a pack, the dimensions given in the annexed plan are sufficient. The essentials as to accommodation are very simple, and consist of—first, the lodging-rooms; secondly, the feeding-room; thirdly, the boiling-house; fourthly, the men's rooms; fifthly, the men's stables; and sixthly, the courts. The lodging-rooms should consist of five rooms, three large, and two small—A 1, A 2, A 3, A 4, A 5. A 1 is for the regular pack; A 2 for the pack drafted for hunting next day; A 3 for invalid dogs; A 4 for bitches in season; and A 5 for those whose room is drying after being washed down. Where a dog and bitch pack are kept separately, one other room, at least, must be set apart for the bitches. These houses should all have benches, raised about 20 inches from the floor, and about 30 inches wide. These should surround three sides of the room, and should have open lattice-work bottoms, with a front edge to them about 4 inches deep, of stout timber, well rounded off. They should also be lined with board, towards the walls, at least 8 inches from the top of the bench. The size of the rooms is indicated in the plan annexed. All should be paved with *glazed* tiles, sloping to the centre, which should have a trapped drain; and they should be on a foundation of concrete, composed of large cinders or broken bricks, with lime and gravel. When expense is of little importance, all kennels should be built on brick arches, which, after all, are not very expensive, a single brick arch being quite sufficient. These rooms should be from twelve to fourteen feet high, and ventilated by means of three or four trap windows, similar in principle to those in church windows. The traps should, however, be capable of being entirely removed in the heats of summer. One large feeding-room is all that is necessary, but I have not given it in the plan, as I should much prefer an open verandah, running the whole length of the kennel, for this purpose. Here the troughs may be placed, and in the summer time the food cools more rapidly, while, after feeding, and indeed at all other times, the verandah allows the hounds to enjoy the shade from the sun, or protection from the rain. The troughs *f f* are made with perforated covers; and when these are shut down, they form a seat for the men, or a bench for dogs to lie upon, high and dry. The boiling-house may be placed at the end of the building, or at some greater distance, if desirable; but it should be tolerably near, on account of the increased labour of carrying the pudding, broth, &c., from a distance. It should be a room *open to the roof*, to admit of the escape of the steam; and containing two large cast-iron boilers, set in proper brickwork. These boilers should hold from 50 to 60 gallons, and should be kept, one for meal, the other for flesh. In the boiling-house also there should be two or three coolers, 8 feet by 5 feet, and 1 foot deep, in which the pudding or broth may be allowed to cool. This room should also be floored with tiles or bricks; no concrete is necessary, but a drain must be added, to allow of the blood, &c., from the flesh being washed away. Over one of the three lodging-rooms (A 1) are the rooms of the kennel huntsman, or feeder, who should always be at hand at night, prepared to put down the first symptoms of quarrelling by the voice, or, if necessary, the whip. Opposite the junction of the inner wall of A 1 with that dividing A 2 from A 5, there should be in the feeder's room a small stove, or fireplace, fed with air from three air-drains, one of which commences at the bottom of each of the three lodging-rooms. By this plan, when his fire is lighted, a draught is maintained from the lodging-rooms, and the air kept pure thereby, compelling the entrance of fresh air from the windows. Over the room A 2 is a meal-room, and over A 5 a hay-loft, for the stable adjoining. At the end of the passage, at H, is a foot-bath for the hounds after hunting; it should be made of Roman cement on brickwork, about four or five inches deep, and filled with warm broth; a plug easily allows of the escape of the broth after use. As the hounds pass backwards and forwards to the feeding-trough, they bathe their feet in the warm broth, which they afterwards lick off, the tongue finishing the good work begun by the warm broth. A

bucket of hot broth mixed with an equal quantity of cold water is sufficient for this purpose. Three courts are in the plan, as follows, viz. :—I., for the hunting-hounds; II., for the general pack; and III., for any others, or for feeding. The posts of the verandah stand in these courts; and there should be a trap at the foot of each leading to the drain, for a purpose which every person conversant with the dog will readily understand. There should also be a grass court or paddock adjacent. The stabling is calculated for four horses, which is quite as many as should be at the kennel at one time, the change-horses being better at the regular hunt-stable; but these three or four horses being done by the kennel-men, are better at the kennel; and in the summer time the stable is required for the cub-hunting horses, which are seldom more than screws adapted for that purpose. Good hunters would be sacrificed at this time, owing to the hardness of the ground, and the great amount of covert work. Kennels of these dimensions and construction ought to be put up without much ornamental work, but in a thoroughly substantial manner, for from 200*l.* to 250*l.*, according to locality and expense of materials.

Sect. 4.—The Master and his Men.

The Master of a pack of foxhounds, staghounds, or even of harriers, ought to possess the qualities which would fit him for the command of an army in the field, together with that particular knowledge which is essential to hunting. He should be able to keep in good order—first, a pack of high-couraged hounds; secondly, a set of opinionated men, in the shape of Huntsman & Co.; and thirdly, a disorderly field of sportsmen. If, fortunately for him, he is master of his own pack, without the aid of subscriptions, his task is comparatively light; but even then he is often considered to be the property of those who hunt with him; and, if things go wrong, he is pulled to pieces as much as if he were the servant of his followers, instead of their being immeasurably obliged to him for enduring the trouble and undertaking the expense of his establishment. There can be no doubt that a man who undertakes to hunt a country, even at his own expense, is bound to carry out his engagements, because one part of the arrangement is the giving up the country to him; and, while he is in possession, no other master has a right to it. Sometimes nearly the whole of a fox-hunting country belongs to the master—that is to say, the whole of the large fox-coverts; but this is seldom the case, and generally he is dependent upon the permission to draw them, granted as a part of his district. This permission is given on the implied understanding that sport shall be shown, for no man wishes fox-hunting to be conducted in a slow or unsportsmanlike manner; and hence those owners of coverts who have granted leave to draw, have clearly a right of interference; but they are seldom the grumblers, the actual malcontents being generally the sporting butchers, &c., who indulge the field with their presence. If this grumbling happens with the master who keeps his own hounds, how much more likely is it with the master of a subscription pack. He has unfortunately a hundred subscribers, or sometimes more, each of whom fancies himself justified in calling him to account, or in refusing to obey orders, if he has been transgressing the limits which are compatible with the enjoyment of sport. Yet a field *must* be kept in order; the how? is the problem to be solved, and its solution has puzzled the brains and exhausted the energies of many a high-spirited and well-intentioned sportsman. The master should possess the iron nerves of the "Iron Duke," and yet with these should be joined the polished courtesy of the Earl of Chesterfield. Oaths and imprecations *may* succeed with the self-supporting master, but even then they are better left at home; but these tactics are misapplied with the subscription pack. Nothing but firmness, united with gentlemanly language, has a chance in these days; and their union, when combined with a knowledge of the noble science and good riding, will be sure to succeed anywhere and everywhere; the combination, however, is rare; and there are few men who possess it in full force who will not soon give up their office in the full knowledge that the same talents applied in a different way, will lead to success in the legislature, or in some collateral pursuit. Every master, however, should have a good knowledge of the theory and practice of hunting; and though he may be inferior, in some respects, to his huntsman, who has made it the business of his whole life to study hounds and hunting, yet he ought to know enough to be able to judge whether he is doing right or wrong. If this is not the case, the man will too often exult over the ignorance of the master, if he attempts to interfere; and if he does not in any way take the management, he is the slave of a despot rather than the master of a good

servant. However, in all cases the master must undertake to keep the field from overriding the hounds, and from surrounding a covert, and thereby heading a fox back, and causing him to be "chopped," from an incapacity to break, in face of a lot of chattering cigar-smokers and scandal-mongers, who care little about hunting, and only want to have the pleasure of exhibiting their persons in pink before the young dressmakers of their town or village. These gentlemen must be ranged in their places, or the efforts of the best pack of hounds and the most clever and persevering huntsman will be rendered abortive, whenever there is a light scent. With a blazing scent, after once hounds are away, no care is required; but in nine days out of ten unless the master uses his "Hold hard! gentlemen," pretty unceremoniously, the sport is spoilt, or, at all events, greatly interfered with. Such are the duties of the master in the field, which every man, noble or gentle, who undertakes to hunt a pack of foxhounds, takes upon his shoulders. With his kennel duties, if self-supporting, no one whatever has a right to interfere; but if supported by subscriptions, his subscribers have a right to expect that he shall see that their money is properly expended in the use of the meal, &c., for the hounds, and in all other ways. There is a very great difference in different packs in the money spent, amounting to about 50 per cent.; and this can only be accounted for by the management being good or bad on the part of the master.

THE HUNTSMAN next comes before us, and he, like the master, should be a general out of place; but his duties are not so multifarious, as he has nothing to do with the field, while the master should have the knowledge of a huntsman, and also be able to keep his unruly friends in order. In all cases, whether the master hunts his hounds himself or not, he should have a steady man to act as huntsman during the exercise, and in cub-hunting, &c.; also in his absence from business or ill health. But the regular servant must possess the following qualities: temperance, judgment, hound-knowledge, knowledge of hunting, including the ways of all foxes, knowledge of country generally, and of the particular country hunted; good horsemanship—by which is meant anything but random riding, nevertheless, a huntsman ought, in nine cases out of ten, to be able to get to his hounds; *sometimes* a park-wall, or a river, or canal may interfere, but these exceptions do not often occur. A good voice is also essential, and the more peculiar the better, as the less hounds answer to strange voices, the more successfully the sport will proceed; and, in particular, he should have the faculty of making hounds fond of him. With these requisites, added to a quiet, civil deportment, and a natural liking for the science, a man will always command sport; and in proportion to his success there, will be the respect paid him by the field. For a pack of harriers or beagles the huntsman requires much less dash and hard riding, and should be quieter, more steady, and less interfering. His field is generally smaller; the farmers take care that their wheat, &c., are less ridden over, and the hounds have full chance to do their work without being interfered with. An older man is therefore more suited to this place, as he is more required in the kennel than the field; for if he gets command of his hounds in the former, he will easily manage them in the latter. Indeed, a word from a huntsman is enough with harriers; they turn like lightning, and are, or ought to be, as handy as kittens.

UNLIKE THE HUNTSMAN, IN EVERY RESPECT, SHOULD BE THE WHIPPERS-IN, both first and second; they should both be good horsemen, and may be, perhaps, a little more dashing at times in their riding than their superior officer—that is to say, that it may be permitted to them to risk a drowning or a broken neck when certain things are to be effected, which risks the huntsman seldom has occasion to incur. If a hard-run fox is heading for certain earths which are open, woe to the whip who does not risk the breaking of his own neck and his horse's heart in getting to them in time. If hounds are changing their fox, and the hunted one is close before a single hound, or a couple or so, then, at all hazards, the other hounds must be stopped, and the whip's riding must be daring enough to effect his object. He, however, should not think exactly for himself, but should work in a subordinate capacity to the huntsman. There may often be two courses to be pursued, and it is not for him to consider which is the best, but that which the huntsman will consider the best, and that is the one for him to work to. He should always be on the look-out for "riot," and careful to check it in the bud, using a rate, if that will act, and if not, then getting to the rebellious hound directly and "serving him out." No plan is so bad as that of constantly flicking and cutting at hounds; if they do wrong in spite of a rate, then punish them severely; but in all cases try

the gentler means first, and if they fail, use the whip with power, but at the same time with care and caution, *as the dog's eye is very easily cut out.* The first whip's duty is chiefly to restrain any wildness in the leading hounds, to stop them, or to check riot; while that of the second whip is to bring up the tail hounds, to drive on those hanging in coverts, and generally to keep the slow hounds up with the pack. The duties of the second whip are very subordinate, and require nothing but a strict attention to plain orders. Nevertheless, he may do harm by over-using his whip, or by a want of activity; but most second whips are ready enough in acting; and as they are generally selected for their good horsemanship, their task is performed with ease and satisfaction to themselves.

THE FEEDER is a Jack-of-all-trades, in a subscription pack especially. He has first to look out for and kill the dog-horses, and should be able to know what to accept and what reject. Some over-drugged and diseased horses are absolutely injurious to the kennel, and the hounds had much better live on their pudding alone, than be poisoned with unwholesome food. Besides this duty, he has to wash out all the lodging rooms, and mop them dry; to boil the flesh, and make the pudding and broth, and to get the food ready for them, either when returning from exercise or from hunting. It is usual for the feeder to undertake the grooming, &c., of one or more of the men's horses, generally the huntsman's; but sometimes a helper is allowed. In almost all cases the whips do their own horses, and there can be no reason why they should not; then if there is only one horse kept at the kennels for the huntsman, the feeder may well undertake him, as his duties are over when the hounds come in, and he has nothing to do but attend to this horse; whereas the huntsman should himself feed the hounds, and attend to any wounds, &c., which they may have incurred in their day's work. This will take him nearly two hours, including a short interval for his own stomach. The feeder ought to be a thoroughly trustworthy man, civil and obliging, and also fond of hounds. A good deal must be trusted to him; lame and sick hounds must be left in his charge, and if he does not carry out his instructions, many hounds will die or be ruined. If, also, he is not careful in drying the sleeping-rooms before the hounds are returned to them, or if he leaves doors or windows open in bitterly cold days, from thoughtlessness or carelessness, kennel-lameness, or some other form of rheumatism, is sure to show itself.

Lastly comes the EARTH-STOPPER, a very important functionary to a pack of fox-hounds, though only wanted there, and sometimes superseded by the keepers, who engage to stop on notice being given them; but in all well-appointed establishments he is still a regularly paid official. His office is to proceed at night, when the foxes are all out feeding, and stop the earths, wherever they are likely to be run to on the following day. If he is a man who knows his business, it is only needful to tell him what coverts will be drawn; but although this is all that is necessary for him to know, yet he should in all cases tell the first whip what earths are stopped, in order that, if the run is by chance different to what was expected, he may know whether it will be needful for him to get forward and head the fox before entering the open earths. After hunting, the earth-stopper should also carefully unstop the earths, and leave as little trace as possible of his midnight work. If the keepers are to be trusted to do this, they of course easily can: but it is so important to hunting to see well to this part of the arrangements, and disappointment so often follows the reliance upon men whose hearts are more often set upon the gun than the hound, that it is much better for the earth-stopper himself to see to this part of his duty. I have certainly seen many runs spoilt from a dependence upon the aid of the keeper.

THE HORSES OF THE MEN should be good useful hunters, especially those for the huntsman, who ought to be the best-mounted man in the field. It is all very well to say they may be blemished, but so may any hunter. Who cares for blemishes in the hunting field? Many of our best and highest-priced hunters have had badly broken knees, and with these drawbacks, or with scored-hocks, have fetched 400*l.* or 500*l.* If a man is not well mounted he cannot get to his hounds, and should not be blamed for failing in effecting an impossibility. The whips may be put on half-made horses, because in case of accident, their places may be more readily supplied; but the better horses they have, the better they can perform their duties. In hunting three days a-week, the huntsman and whips require a fresh horse generally every other meet; and in fast countries the huntsman usually has two out in the same day.

SECT. 5.—KENNEL MANAGEMENT.

THE FEEDING AND KENNEL MANAGE-

MENT of all hounds is nearly the same, making due allowance for size. Cleanliness is the great virtue to be practised, and without it no hound can be preserved in health and in perfection of nose. It will be remembered, that, for the purposes of the general pack, their lodging-rooms are devoted according to the plan of kennel at page 123. One of these (A 5) has been empty all night, and should have been washed out and have had time to dry by morning. Into this the general pack should be turned the first thing in the morning after giving them an airing in the grass-yard, if dry, or under the verandah, if in wet weather. The feeder should then sweep out their lodging-room (A 1), and after doing so he should mop it out well, leaving it quite sweet and clean, taking care afterwards to dry it as much as possible. This will be ready for the hounds again by eleven o'clock, when, in the usual way they may be returned to it, after feeding and exercise. A 5 may then be roughly swept, but not washed; and then, after just walking them into the yard, the hunting pack may be turned into it while their lodging-room (A 2) is being swept and washed out. They will remain there an hour or two, and then should be taken out for half-an-hour or an hour, according to the work they are doing, when they may be brought home, fed, and returned to their regular lodging-room (A 2). This again leaves A 5 empty, and it may be thoroughly cleansed at any time when the feeder has leisure. Thus, the hounds are never turned into wet kennels, and consequently are not subjected to the chances of rheumatism. With regard to the hour of feeding, it should, as a general rule, be about eleven o'clock for the general pack, and from one to two for the hunting pack, according to the time of meeting and the distance they have to travel. By giving two hours between the feeding times of the two packs, the duties of the feeder are lightened, and he has time to exercise and feed the former on hunting days, without help. In many kennels it is the practice to give a little broth or thin gruel to hounds at night; but even in the case of delicate hounds I do not think it of much use. Some certainly are so delicate that they can scarcely be fed too often; but these are exceptions, and they should be treated as such. Water should always be within reach, and raised above the height of the belly of the dogs, or it will be soiled by their urine. It is best in iron troughs, one of which should be in each sleeping-room and court-yard. In summer the doors and windows of all the rooms may be left open, and access to the yards allowed night and day; but in severe weather the doors must be shut, and ventilation only carried on by the tops of the windows, and by the air-flue communicating with the chimney of the feeder's room. The food should be principally of flesh and meal, with an occasional mixture of vegetables. The flesh is always that of the horse, to save expense, and should be boiled for hours in one of the iron boilers till it is ready to leave the bone. A great saving of expense is made in the long run, by having digesters instead of open boilers; they cost about three to four pounds a-piece *untinned*, and will save the difference in prime cost in a single season. This difference is not only in the extra goodness of broth obtained from the meat and bones, which is, however, at least 15 or 20 per cent., but also in the fire, which need not be above half what is required for the open boiler. If the digester is used, it should be set like a boiler; and it is a very good plan to screw a pipe in it near the top, which can be led into the drain adjoining, by which means all the disagreeable smell given off from the stale flesh in boiling is carried into the bowels of the earth. This benefits all parties—hounds, horses, master, and men; for all are nauseated by the hot, greasy, and sickening smell of boiling stale meat. The flesh having been thoroughly boiled, may be withdrawn by a pitchfork, and set to cool under the shed of the flesh-house, or in the boiling-house, if the weather is not too warm; then taking out one-third, or thereabouts, of the broth, pour it into the other boiler, and fill up with water till nearly half-full, in which condition the other is left. Both may then be thickened with meal, which should be oatmeal chiefly, but mixed with coarse wheaten-flour, or Indian-meal, or barley-meal, according to the fancy of the master. The first I believe to be the best and strongest for giving the power of standing work; the second very nearly, or quite as good; and the third only fit to fill hounds' bellies, without benefiting them in any other way. Indian-meal and barley-meal are usually about the same price; but the former is ten times as good, and has the valuable property of bearing a much greater amount of boiling than the oatmeal, which is not the case either with wheaten-flour or barley-meal. Wheaten-flour requires about half-an-hour to boil; barley-flour, one quarter; Indian-meal, two hours; and oatmeal, about one hour, or nearly so. Hounds will generally

thrive best, if hard-worked, upon equal quantities of oatmeal and wheaten or Indian-meal; one pound of the mixture being sufficient for each hound. Enough only for two days should be boiled at once; and one-half being made with better broth, the other will serve for the more delicate light-fleshed hounds. Each boiler holding, when half-full, about 80 quarts of broth, there will be required the same number of pounds of meal, which will serve 40 couple of hounds two days; if more or less, the quantities must be regulated accordingly. In many kennels, as soon as the thickened broth, or stirabout, has boiled sufficiently, the fire is drawn, and the pudding is allowed to cool in the boilers; but by far the best plan is to draw the fire, and then ladle out the stirabout into the coolers, which have been already described in the boiling-house department. Here the meal sets much more rapidly, and has not time to get sour, as it soon does in the summer. I am quite satisfied that, cooled in this way, it forms a much more wholesome, and even a more palatable food, than when suffered to grow cool in the boilers. After cooling, it forms what is called "the puddings," and is thick enough to be cut out with a spade. It may always be reduced with thin or thick broth to any quality desired for bitches, invalids, &c.; but for working-hounds it should be pretty solid. When they are to be fed, this should be broken up with the spade, and carried into the feeding-troughs, and the meat, after being thoroughly cut up small, should be incorporated with it. By some it is said, that the meat is more easily picked out of thick than thin "puddings," but this is a mistake. If they are thick enough, it is ten times more difficult for the dainty hound to pick out the bits, and he is obliged to eat all as it comes, or none. In feeding, every hound should be called by his name, commencing with the light feeders, and giving them the best "puddings" in a separate trough. The huntsman—except the general pack on hunting days—should always feed, as he is the best judge of the wants and powers of each hound. Throwing open the door of the room or court where they are, he keeps all in expectation, but not daring to cross the threshold; then, with a decided, yet encouraging tone, he calls out the name of each hound intended to share the first trough, thus: "Wanton! Racer! Wasteful!" &c. &c.; generally drawing, at first, six or seven couple. When these have filled themselves, he calls two or three couple more by name, and allows them also to get their fill with the first lot; thus often encouraging the first to take a little extra food through jealousy of the second. When these have also fed they are all sent back, and the third lot, consisting of all the remainder of the hunting hounds, except a few gross feeders, are admitted. These are allowed to fill themselves as far as the huntsman thinks proper, ordering each off as he has had what his feeder thinks right. Then, lastly, the same kind of process is repeated with the general pack of lame and non-hunting hounds, and the gross feeders, which are admitted either in lots of eight or ten couple, or altogether, according to the fancy of the huntsman; but all called by name, and ordered off in the same way. This last feature is of great importance, as it uses hounds to attend when their names are called in the field, and the slightest word then serves to call their attention to their master's rate. Once a-week in the winter, usually on Sundays, some greens, potatoes, or turnips, are boiled and mixed up with the food, and serve to keep the hounds cool and in good general health. In the hunting season, about from a quarter to half a pound of flesh per hound per day is sufficient, and many use even less; this is the average, but some take more, some less. The oatmeal should be at least one year old; and the Scotch meal is much better and goes farther than the English. Wheaten and Indian meal need not be so old. In summer the feeding may be conducted on a very different plan, and the hounds are better divided into a dog and bitch pack, whether such is the hunting division or not. One of the best and most cooling kinds of food is, then, the lowest stomach or paunch of the cow, full of grass half-digested. These should be thrown on the grass raw, and the hounds soon tear them to rags and devour them. Properly, each paunch should be given to about six couple of hounds by themselves, but few huntsmen care to take this trouble. This food will suffice for three days a-week, given in the morning; and on the same evening, which is the best time for feeding, some cabbages, or turnips, or potatoes should be given boiled in broth. On the intermediate days thin porridge, not "puddings," may be given, being weak broth thickened with Indian-meal, as the cheapest, or oatmeal, or a mixture of each. Little or no flesh should now be allowed, as the hounds have nothing but walking exercise, and do not gallop about like greyhounds. They should be fed so as to look healthy and bright, but

still not so as to be round and fat to the extent of concealing their ribs. I know no food which keep hounds so bright and healthy as the butcher's paunches; and they may be obtained at a very low rate in the neighbourhood of a town of any size. The half-digested grass is a capital alterative, and there is also considerable nourishment in it. Hounds are very fond of it, and prefer it to any food you can give them; and nature seems to point it out to them in the summer, for they are then always looking out for grass and garbage. Very little physic is required, as a rule, but a dose of Epsom salts or castor-oil now and then does no harm. If worms are present, or other disease, treat according to directions given under the chapters on the Diseases of Dogs.

CHAPTER II.

STAG-HUNTING.

Sect. 1.—Hunting the Carted Deer.

Stag-hunting may be divided into two grand sections—1st, hunting the carted deer; and 2nd, hunting the deer in its wild state. The former is confined to the red deer and the fallow deer; the latter to the red deer and roebuck. In describing stag-hunting, I shall assume that the pack is a perfect one, because there are no rules for making it so, and I have no personal knowledge on the subject; besides, it is so rare a sport, that few of my readers are likely to want this knowledge.

In Hunting the Carted Deer, besides the pack of staghounds already sufficiently described, and usually consisting of from 18 to 20 couple, and, besides the master, huntsman, and whips, there is also employed a cart or small caravan, to convey the deer to the meet. This is drawn by one or two horses, and it is accompanied by two or three yeomen-prickers, or, as they are called in some hunts, "verderers." One of these drives, and the others release the deer and prick him on, and when taken, hobble him and replace him in the cart. It often happens that the same deer is hunted from twelve to twenty times in the season, and at last becomes so used to the gallop as to show little fear of the hounds. One peculiarity of the staghound is his great tractability, in which he far excels the foxhound and bloodhound, and is, in fact, selected, in great measure, for this virtue; for if the whips are unable to stop the hounds when the deer is at bay, the animal's life is sacrificed, and much future sport, if sport it can be called, is put an end to. All these officials, with the deer, being assembled at the spot appointed for the meet, which is generally a common, in order to allow the deer to get well on his feet before he arrives at the enclosed country, the deer is uncarted, and, with a great parade of whip-smacking and horn-blowing, is turned off into the open country.

The Deer, which ought to be, and usually is, the red deer, male or female, has been some time before deprived of his horns, if a male, and also trained by compelling him to gallop round his enclosure for a considerable time each day. In most hunts three or four, or sometimes five or six brace of these deer are turned into a large paddock, surrounded by a high fence, and they are daily driven round and round at a moderate pace by men on horseback, or muzzled hounds, or sometimes by hounds trained like sheep-collies, to bark without biting. Without this training they would be wholly unable to stand ten minutes before the hounds, but would be blown at once, because they are highly fed in order to get them into good condition, and would become internally fat, if this food was allowed to be converted into that material so unsuited to produce good wind. Any hounds will hunt deer naturally, and are peculiarly fond of the scent; and therefore it is only when carted deer are to be turned out and preserved from the fangs of their assailants, that the highly-broken staghound is so necessary. Sometimes the hind is used, and many of this sex have afforded as good sport as their lords and masters. In this case there are no horns to be removed; but in the latter part of the season they are so much disposed to lay on fat, that they require a great deal of work to keep them in good training. The cart accompanies the progress of the hunt as nearly as may be, and the yeomen-prickers ought to be in attendance at the place where the deer is at bay, to hobble him.

STAGHOUNDS RUNNING. P. 130.

The hobbles are leather straps, which are buckled round the hind fetlocks, and are then drawn up on each side of his shoulders to a loop of rope thrown over the neck, and so secured. When the fallow deer is used as a substitute for the red deer, his horns also are removed, and he is trained in the same way; but this species has neither the boldness nor the speed of the red deer, and does not consequently afford anything like the same amount of sport. Formerly, hounds were kept to hunt the fallow deer, called buckhounds—a smaller kind of staghound, but they are now wholly out of fashion, and I am not aware that any such pack is maintained in Great Britain at this present time.

After the Enlargement of the Deer, from Five to Ten Minutes' Law is usually allowed before the hounds are laid on; during this time the deer has been driven away, selecting, as far as possible, the desired direction, and arousing his fears by whip-smacking, hallooing, and horn-blowing. Sometimes great difficulty is experienced in getting the deer to go straight away, and he runs the roads, instead of taking to the open country. It is always the best plan to send one or two mounted-men to start him off, and these, in the Royal Hunt, are termed yeomen-prickers. Occasionally, however, a good and bold deer takes a line, and goes straight away without dwelling a moment; and such deer have even escaped into the forest, and been lost for some time. Often they will stand before the staghounds, fast as they are, for two hours, or even two hours and a half; and instances have been known of runs lasting three hours without a check. This long period of time would require at least forty or fifty miles to be traversed, and such a distance has really been accomplished on some memorable occasions; one of which is recorded by Johnson, in his "Sportsman's Dictionary," as having taken place in 1796. The stratagems of the stag are sometimes very curious; he has been known to enter the bed of a rivulet, and run for some considerable distance *up the stream*; then, leaving its banks, he has again pursued his way, and as the scent has been carried by the water many yards below the point where he left the banks, it does not correspond with the actual line of the stag. This is a very puzzling affair, as a cast is necessitated, and nothing but great experience in the ways of deer will enable the huntsman to make it in the right direction. When hounds, therefore, suddenly throw up at a brook, and cannot carry the scent beyond it, the huntsman at once guesses either that the deer has "taken soil," or that the above manœuvre has been practised. If, however, the former is not found to be the case, which the eye soon detects by examining the brook, he has only to cast widely enough forwards, remembering that the deer is almost certain to take up stream, and he, most probably, hits off the scent. Deer are also very fond of running through sheep, and nothing foils the hounds so much as a flock of these animals. Here, again, a cast is required, and the huntsman's experienced eye must enable him, if possible, to guess in which direction to make it; but as the deer has been reared in a pack, and has no knowledge of the country he is traversing, this is often a matter of pure speculation.

Casts are effected as follows:—When the huntsman perceives that the hounds are at fault, and have thrown up their heads, being unable to hit off the scent, he gives a note or two on his horn, by which the hounds are gathered at his heels, and "lifts them" clear of the sheep, brook, or small covert, or whatever else may be the cause of "the check." Then, making up his mind what is the most likely direction for the hunted deer to have taken, he trots off with his hounds so as to cross that line at some hundred yards off from the original scene of the check. Here, if his surmise is correct, the hounds at once hit off the scent; and if they fail to do so, he proceeds to cast his hounds in another direction, only giving up all hope when he has tried every possible plan of proceeding, and has failed in all.

The Take of the Stag is the wind-up of the royal sport, and is effected wherever the animal is standing at bay before the hounds. He usually "takes soil;" that is, enters a pond or river, and there, with his back against a high bank, or some similar defensive position, he awaits his assailants. It is always necessary in stag-hunting that the huntsman or whipper-in should be with the hounds, because, though from long custom they are so polite as to waive their title to a slice of the haunch, yet nature will prevail sometimes over education, and the deer, unprotected as he is by the defensive armour which his horns would be to him if not removed, must not be left undefended also by his former assailants—but now guardians—the huntsman and whips. These officials immediately whip off the hounds, and await the arrival of the verderers or yeomen-prickers, whose task it is to hobble the deer. The hounds are thus never blooded, which may account for their trac-

tability, and their refraining from fastening upon the stag when first running into him at bay. The chief packs are at this time (1865)—Her Majesty's, Baron Rothschild's, Sir C. Constable's, and Mr. Nevill's, in England; and the Ward Union in Ireland.

THE EXPENSES OF A PACK OF STAGHOUNDS vary immensely, from the enormous outlay of the Queen's Pack to that bestowed upon the Cheltenham Staghounds, which have been at times supported upon little more than 900*l.* a year. Few staghounds meet more than twice a week, and consequently one pack and a double set of horses are all that are required. Setting aside, therefore, the master's personal expenses in horses, &c., the necessary outlay will be as follows, calculated on the most economical scale:—

EXPENSES OF STAGHOUNDS, PER ANNUM.

	£	s.	£
Huntsman and clothes	100	0	
First whip, ditto	70	0	
Second ditto ditto	55	0	
Feeder and verderer in one	80	0	
Taxes on servants	4	0	
			259
Feeding 25 couple of hounds, at 1*s.* 6*d.* a week each	195	0	
Medicines, dressings, &c.	5	0	
Tax on ditto	80	0	
			230
Six horses, for six months, at 15*s.* per week	108	0	
Ditto ditto summering, at 7*s.*	54	12	
Shoeing	16	0	
Veterinary surgeon	6	0	
Saddler	15	0	
Tax on horses	6	0	
Helper in stable, at 12*s.* per week, for six months	14	8	
			220
Allowance for keep of deer, accidents, &c.			91
Total			£800

SECT. 2.—HUNTING THE WILD RED-DEER, OR ROEBUCK.

This is a very different affair from the pursuit of the carted stag, but it is now almost unknown as a regular sport. The Devon and Somerset staghounds have usually some good days on the Quantock Hills in Somersetshire, and in the forests of Exmoor and Dartmoor; and Killarney, in Ireland, still boasts of her occasional days of sport, the gaps being filled up by the hunting of the carted deer. It is useless to describe the hunting of the roebuck, because, as far as I know, no established pack is used for the pursuit of this wild and beautiful little variety of the deer. Whenever it is hunted, it is when it has been seen or heard of in the neighbourhood of any of the Scotch packs of harriers, and then it affords often a very good day's sport. No particular laws or rules can be laid down, as its being hunted is only an exceptional case.

THE FINDING THE WILD DEER is the point of difference between the two modes of stag-hunting; for here the animal is "harboured" in some secure retreat, instead of in his cart. Certain men, called "harbourers," with hounds trained for the purpose, called "tufters," undertake the task, and proceed into the forest for the purpose, the regular pack being held at hand by the huntsman and whips, ready to be laid on when the hart or hind is "unharboured." The harbourers being always in the forest, know the haunts of the deer, and can generally tell pretty nearly where to find them. By walking round any coppice supposed to harbour a hart or hind, they ascertain by the "slot," or tread, and by the "fewment," or dung, whether the animal is in season, and of a proper age for hunting; that is to say, whether his age is such as to make him "warrantable,"—a term already explained at page 105, as meaning six years of age. The hounds also, by their tongues, indicate the sex and the presence, if any, of a calf with the hind; and if so, they refuse to hunt, knowing, by previous experience, that these are unsuited to their master's purpose.

CERTAIN PERIODS ARE FIXED for hunting wild red-deer; being, for the warrantable hart, from the 20th of August to the 31st of September, both inclusive; after which, he is so weak from rutting, as to be unfit for sport. The hind is then hunted for a short season; and in the spring again, from the 10th of April to the 20th of May, old barren hinds, warrantable as such, are hunted, and afford good sport. Thus, wild stag-hunting has a very short season, and three months out of the twelve is the utmost extent to which it can be strained. It is therefore no wonder even if wild deer could be found, that the park-fed and trained deer should be used to fill up this gap; and these are almost always hinds, the stags being out of season after their rutting; though sometimes they keep their condition in the paddock, and are able to stand a run as well, or even better, than in their autumnal state.

THESE WILD DEER ARE HUNTED exactly in the same way as the carted deer, but the

hounds getting blood, they run much more fiercely, and with more resemblance to the dash of foxhounds. The huntsman must still keep well with his hounds; not as before, to save the deer, but rather to assist the hounds when the deer is at bay, and to save them from his horns, which are dangerous weapons of defence. Sometimes, however, a deer is saved from the hounds, because of their scarcity; but the rule is for the huntsman to go in as soon as he can, or dare, and cut the deer's throat with his knife while he is engaged with the baying of the hounds; the latter are allowed to lap his blood, which they do eagerly, and then he is "grallochedd," and his entrails distributed to them. After this the carcase becomes venison, and is carried home on the harbourer's pony, to be treasured as a special dainty.

THE EXPENSES OF THIS KIND OF SPORT do not much vary from those given at page 132, as applying to the carted deer; the varying margin being that devoted to fees to harbourers, &c., &c., which cannot be estimated. I have, however, heard that the Devon and Somerset hounds are kept, all expenses included, for about from 1000*l.* to 1200*l.*; which, considering that they rarely have a dozen days' sport in the year, is indeed paying dear in proportion to its amount.

CHAPTER III.

FOX-HUNTING.

SECT. 1.—GENERAL REMARKS.

THE NOBLE SCIENCE, as fox-hunting is called, by its votaries, is, by common consent, allowed to be the perfection of hunting. The animal hunted is just fast enough for the purpose, and is also full of all kinds of devices for misleading his pursuers. He leaves a good scent, is very stout, and is found in sufficient abundance to afford a reasonable chance of sport. It would therefore be consistent with the importance and dignity of fox-hunting to have placed it above stag-hunting, in the consideration of the varieties of hunting; but in order to avoid disconnecting stag-hunting from deer-stalking, the former has been placed in a more prominent situation than it deserves, unless the size of the animal hunted is to be taken as a guide to the value and importance of the hunt. In this point of view it would certainly rank much higher than fox-hunting; but in every other it sinks immeasurably lower. Still there are certain advantages attendant upon the one which the other does not enjoy; for example, the followers of the stag may allege that they can always be sure of a gallop within certain hours, and can therefore calculate on being in their places, either of business or pleasure, by a certain hour. Thus, members of either the House of Lords or Commons may hunt with her Majesty's stag-hounds, and yet be in town in time for their duties at the palace of Westminster. These considerations, and these alone, appear to keep up the expensive establishment at Ascot Heath.

SECT. 2.—LAWS OF FOX-HUNTING.

These laws are very difficult to get at, because they are not recorded in any written code of rules, but are retained in the traditional records belonging to the families of the various masters of foxhounds. Certain countries have long been held by certain families, from father to son, and any attempt to encroach upon them would be resisted by all parties concerned, with as much force as if the title-deeds to their estates were themselves endangered. Long disputes and violent controversies have estranged the masters of neighbouring packs from each other; but, nevertheless, no step has been taken to avoid a recurrence of these unpleasant fracas by the framing of written rules, to which an appeal could be made. Objections are doubtless easily produced at the onset to any such course; for it would be rather a dangerous proceeding, perhaps, to admit *on paper* that A has a right to draw B's coverts whenever it suits him. It may be all very well to *suffer* it as a habit or custom between gentlemen; but to admit it as the preliminary section of an established law would do away with the liberty of the subject. At present A has the right (recognised among gentlemen) of drawing B's coverts during the time not objected to by him; but more than that would be conceded if B admitted the force of a law by which he would allow to A the right of

entering for the purpose of drawing any of his coverts. If A conducted himself ever so obnoxiously towards B or others, there would be no means of getting rid of his presence, and he would really be more the master of the property, for sporting purposes, than B himself. B therefore virtually says—"As long as you continue to hunt this country to the satisfaction of the hunt, including myself, you may draw my coverts, and at all events until I give you notice to the contrary." And such is really the understanding everywhere, though much more strong in self-supporting hunts than in subscription ones. The law of the land says, that before a trespass with hounds can be committed, due notice must be given of the action which will in that case be brought; and this notice can at any time be served upon the master of hounds who is obnoxious to any owner of a covert. But if a law relative to drawing had been signed by this landowner, the power of giving notice would have been suffered to lapse, and the master would be entitled to enter and draw in spite of the real owner. This would no doubt be an evil, and is, I think, a sufficient reason for leaving fox-hunting laws as they now exist—only in the breasts of gentlemen; for while all conduct themselves as such there is not likely to be a dispute, and the presumption is, that if such a dispute has arisen, some one has outraged those other laws which gentlemen hold sacred among themselves, and which are independent of the code peculiar to fox-hunters. All landowners therefore individually can spoil sport; and many cases of such selfish proceedings do occur, though not so often as might be expected from the feeling which game-preservers have that fox-hunting is injurious to their interests. In spite of this feeling, such is the general impression in favour of fox-hunting, that even the coverts most strictly preserved for the purpose of the *battue* are open to the foxhounds whenever the master pleases. No one can dispute that the disturbance of the game is then very great, and that many pheasants are driven by the noise, &c., out of bounds and lost for ever to the owner of that preserve; but, nevertheless, all is borne with good temper, and the interests of the select few are made to bow to those of the many who compose the hunt. A more unselfish and praiseworthy act can scarcely be quoted, than that of the pheasant-shooter giving up his most cherished preserve to the use of a sport in which neither he nor any of his perhaps partakes. Fox-hunters are certainly rather *exigeant* in their demands when they require the concession as a public right, but custom has sanctioned it, and the refusal is now considered the act of a churl. But though this permission is a great boon, a greater one still is generally practised by the very same individuals—namely, the actual preservation, or rather the breeding and rearing of foxes for the express purpose of affording sport to others, but annoyance to themselves; and this also fox-hunters seem to claim as a right, and complain if it is not acted up to; but if the reverse is the case, if not only is there no permission to hunt, and no preservation of foxes, but in addition, if a stray fox is trapped, then maledictions are heaped upon the head of the offender in language more strong than elegant; and no punishment which could be devised would be thought too strong. But is this in conformity with the fair spirit of gentlemanly feeling which ought to exist? I can hardly think so; I honour most highly the fox-preserving pheasant-shooter, but I confess that I absolve from actual blame him who *openly* professes to forbid his presence on his property. The man of all others, however, who is to be despised and discountenanced is that one—too common, to my knowledge—who professes to preserve, and is always ready and pressing with his invitations to the master, and yet only disappoints him with a tame fox or a bagman; the former being fed up to his throat with rabbits and poultry, and the latter just shaken out before the hounds. These covert-owners therefore must be allowed to have the power of doing what they like with their own, by the law of the land as well as the law of fox-hunting; but, by the universal consent of gentlemen, it is settled that while they have this *negative* right of withholding their coverts from the master of the hunt in which their property is situated, they have no *positive* power of inviting a strange master to enter and draw. This is a very wholesome rule, because it prevents one gentleman from annoying his neighbour by bringing an extra pack of hounds into the district, and thus being an extra source of damage as well as of rival claims. This rule, however, is only in operation as to coverts which have been habitually drawn, and are included within the limits of hunting countries actually in existence; and it is admitted, that if a covert is not drawn by a pack of hounds for a certain number of years, which is variously stated to be five and seven, that the proprietor has a right to hand it over to another and adjacent hunt. If this be

done, and no reclamation takes place immediately, supposing that no draw has been made during the last seven years, then the covert becomes definitively attached to the new hunt, and no law of fox-hunting allows its disseverance. These are the only really recognised laws among fox-hunters; for all mutual agreements between neighbouring hunt-clubs or masters are not laws, but simply temporary agreements, revocable at will. I know of no law which can be considered as such, other than those I have already stated. The agreements are as to stopping each others adjacent earths in case of drawing coverts on the borders of the respective countries; and these being mutually beneficial, are acted upon on all occasions; because, otherwise, every border fox would escape by running to the nearest earths in the next country, and consequently all coverts but the central ones would be quite useless. No one disputes the law, which is universally acted on, that a hunted fox may be followed into another hunt; and it is better for the hounds to do so than to whip off while the scent is good, and there is any probable chance of blood; but if the scent is bad, no sportsman would think of risking unpleasant reflections by casting his hounds or otherwise assisting them. This would lead to an imputation of an attempt to find a fresh fox, and should be cautiously avoided. Such are the laws and customs relating to this noble sport; and nothing shows the general high estimation in which it is held more than the universal concession of private convenience to its purposes.

THE FOLLOWING IMPORTANT DECISION was given in 1854, by two of our highest authorities on the laws of fox-hunting countries. It referred to a dispute which had existed for a long time between the Essex and Herts Hunts, with respect to the right to draw a particular covert, viz., Takeley Forest. A committee was formed to collect evidence, and conduct the case before the arbitrators, Lords Yarborough and Redesdale, who have given the following award, which is a lucid and searching exposition of the merits of the respective claims, and deserves to be placed amongst the archives of fox-hunting law, as establishing clear and fundamental principles with regard to the difficult subject of neutral coverts:—"1. Immemorial usage is the common title to a fox-hunting country. When the date of the commencement of such usage is known, the right to it will depend on the manner in which it commenced. 2. In the case referred to us, satisfactory proof is given that the forest has been drawn by both hunts as long as any living man can remember. The evidence of the Calvert family, as to its belonging exclusively to the Herts Hunt, can only be received as a record of their opinion. At the time when the statement was made the Essex were drawing it, as well as before and since; and in making the statement, Mr. Calvert does not say that they did so by permission asked and granted, or give the date and particulars of any agreement on the subject. 3. There is a wide difference between permission and sufferance, as regards a title to a fox-hunting country. No term of years will bar an original right of the liberty to draw, commenced on permission granted conditionally with a power to resume. An encroachment may be neglected for a time, and, nevertheless, afterwards properly and successfully resisted, if satisfactory proof can be given that it was an encroachment and an innovation on former practice between the hunts. But a practice claimed as a right by one hunt, and suffered to be exercised by the other for a period of sixty years and more, when all evidence as to the time and manner in which it originally commenced is lost, must be held to establish that right, or a door would be opened for endless disputes as to boundaries. 4. The fact of the forest having been drawn by the Essex is admitted, and a reason assigned for its never having been formally objected to—viz., that it was a great nursery and preserve of foxes, and then so strong and impracticable a woodland, that there was no getting a fox away, and no chance of a run from it; and that, as it was necessary for the sport of both counties that it should be routed as much as possible, 'the Herts were glad to see the Essex go there, and do the disagreeable work, and therefore no objection was taken to their doing so.' This is a very important admission. It is seldom that so clear a reason can be assigned in the origin of a neutral draw, as the case of a woodland, to which no one was very anxious to go, but which it was the interest of both hunts to have regularly disturbed. 5. The neutral districts so established between the hunts, extended beyond the forest, and disputes arose. In 1812, an arrangement was come to between the masters of the hunts, which the Herts rely on as establishing their exclusive right to the forest, because it is not mentioned among the neutral coverts. The answer of the Essex is, that it is not mentioned because there never was a doubt as to its

neutrality, and that the dispute was only as to certain woods outside. In support of this they prove that the forest was regularly drawn by them afterwards. The Herts reply that this was done because Mr. Houblon, the chief proprietor there, became joint-master of the Essex, and asked permission to draw it from Mr. Hanbury, the master of the Herts; and a copy of a letter from Mr. Hanbury to Mr. Houblon is produced, in which he says that he understands that the latter wishes to draw 'some more coverts' as neutral, and that though he was not himself an advocate for a neutral country, he and Mr. Calvert had every wish, on Mr. Houblon's account, to accommodate him, and would meet him and ascertain his wishes. What these were is not known—the words 'some more coverts' could hardly apply to the forest, nor is there any proof given that they did apply, or that any extension of the neutral country then took place. On the contrary, from the care Mr. Hanbury and Mr. Calvert bestowed on these matters, it is hardly possible that, if anything was done, no written memorandum should have been kept; and the probability is that, on discussing the matter, the objections of Mr. Hanbury to extend the neutral country were found insurmountable, notwithstanding his desire to accommodate Mr. Houblon. 6. The forest continued to be drawn by the Essex till 1832, when Lord Petre took the Herts hounds, and 'claimed an exclusive right to the forest and the other coverts, and asked for a reference.' A meeting took place, and the result was that there was no reference, and that Mr. Conyers was not dispossessed. Again, in 1838, Mr. Houblon, the owner of the forest, became master of the same hounds, and desired 'to have the forest drawn on certain defined conditions, or a reference;' but Mr. Conyers still kept his old ground. It is clear that if Mr. Houblon's father had only got leave to draw the forest conditionally from Mr. Hanbury, in 1812, there must have been positive evidence of that fact in 1832, as it must have been known to many. It is asserted, that in 1832 the claim was only waived during Mr. Conyer's life, but, as in 1833, the owner of the forest, then master of the Herts hounds, asked to have the arrangements respecting that draw 'denied, or a reference,' it is clear that no abandonment of the Essex claim of right took place in 1832; while Mr. Houblon's demand negatives the idea of any agreement having been then entered into by the Herts to abstain from making a claim only during Mr. Conyer's life. 7. The reference asked for on these two occasions has now been brought before us, and, after having given our best consideration to the subject, we are of opinion that, according to fox-hunting laws, the forest does not belong exclusively to either hunt, but must be considered neutral, for the reason assigned in the third and fourth paragraphs.—YARBOROUGH, REDESDALE.—*Nov.* 19, 1854."

SECT. 3.—FOX-HUNTING COUNTRIES.

The different fox-hunting countries are classed under two heads—crack countries and provincials. This is a curious line to draw, as if either were a metropolis, as opposed to a province. It is true that the grass-countries of Leicestershire, with parts of Nottinghamshire and Lincolnshire, are, as it were, one centre of hunting, and, even geographically speaking, of England; but, nevertheless, for one province to call others provincial, is like the Chinese calling all other nations barbarians. One thing is clear, that the grass-countries have a great advantage over all others in holding a scent, and enabling hounds to go their best pace with a middling one, as they often do. Any hounds can race with a blazing scent in any country, but for one good scenting-run in an arable country there are six over grass. Horses also can live through a much longer and faster burst on sound turf than on arable land, however well drained; and the ridges and furrows alone, without the extra depth and stickiness of soil, will make all the difference. Many horses can carry weight above ground which would die away at once in dirt; and, consequently it is as easy to be carried up to fast hounds in Leicestershire, as up to slow ones in deep arable countries. Good fences are required in grass-countries, because the grazing of cattle always necessitates a strong fence; and that which will keep an ox in his pasture, requires a good made-hunter to get over it; but as the taking off is sound and springy, the horse has a better chance of doing his jump well, and clearing the fence without touching it; and this is a very important feature in grass-countries. Again, as the land in these districts is very valuable, it is seldom planted to any greater extent than for game-preserving purposes; and the only coverts where foxes can hang are those narrow belts which are formed for the *battue*, or the spinnies, and gorse-coverts, expressly made for his own convenience. Hence, the obstructions which large woodlands present are not offered in

the crack countries, at least not in the crack portions of them, and hounds can have fair scope for their powers. No wonder, therefore, that they often burst a fox in twenty or thirty minutes; and that a run lasting more than an hour gets the reputation either of being after a wonderful fox, or of being wonderfully slow in itself. The excitement in these "bursts" is very extraordinary; men are as jealous of success in getting forward here as in the army, the forum, or the bar; and perhaps, as the blood of its votaries is generally younger, the contest is to the same extent hotter and more ungovernable. Neither accident nor illness will cause a man to remain with his friend, and "*sauve qui peut*" is the order of the day. It is truly a glorious sight to see two or three hundred of England's best men mounted on her still unrivalled horses, and racing for the lead. Glorious is the view of this the most beautiful cavalry in the world, while waiting at the covert-side; but far more glorious is the first swoop made in charging the fence which presents itself after the word is given, and "hounds are gone away," as well as the fox. Crash goes everything if not easily cleared, and horses and men make light of ox-fences, brooks, or gates, in the first frenzy of their charge. On the other hand, in arable countries the scent in the first place is comparatively bad, from the nature of the soil, varying much according to its precise kind, and the mode of its cultivation; next, the depth of the soil is too great for horses, and to a certain extent interferes with hounds, and lastly, there are almost always large woodland tracts which come even into the heart of the country, and cause checks at every few miles. Besides these obstacles, every plough at work affects, more or less, the line of the fox, and therefore straight runs are the exceptions; while the short, sharp, and decisive bursts of twenty or thirty minutes' duration are almost unknown. Much lifting and quick casting are here constantly required, if a fox is to be killed in the modern and fashionable style; and if a hound has nose enough to work out a scent through all the intricacies of small and large coverts, constantly-repeated small flocks of sheep, chasing of sheep-dogs, &c., he will be so slow as to be ridden over by the field in their impatience. Either, therefore, the modern system requires, and must receive, attention, or the arable (provincial) countries must be gradually extinguished. From this there is no appeal, and one horn or other of the dilemma must be encountered. It is no wonder, therefore, that the crack grass-countries look down with contempt upon the worst arable ones; but there are some, not included in the grazing countries, which afford as good runs as can be met with anywhere. Such are some parts of the Beaufort hunt; great part of the Oxfordshire country, some part of which is grazing land, it is true; the Heythrop, including the beautiful slopes of the Cotswold Hills; Mr. Farquharson's, in Dorsetshire; the York and Ainsty and the Holderness, in Yorkshire; and the Vale of White Horse, now hunted by Lord Gifford. Still, if a good sportsman *had his choice*, he would settle himself in one of the crack countries; and, as he would then be able to command several packs, he would enjoy hunting in all its glory. This, however, requires a good stable of horses, because to be badly mounted there argues and necessitates the loss of a good place in the field. If all are equally badly off, good horsemanship may shove a bad horse into a good place; but when in a large field, every position is filled by a good man on a good horse, it is idle for even a good workman to appear on a sorry and inferior hunter; he had far better be contented with a slower country, and settle himself where an occasional check will give him the chance of seeing the hounds between the find and the worry. Less than this is not *hunting*; for mere riding to hounds I hold to be anything but that amusement. If the working of hounds is not seen and watched, and admired when good, or blamed, and criticised when defective, no one can really be said to participate in the sport of hunting the fox. He may ride as well as a rough-rider, and as boldly as the Light Division at Balaclava, but he knows nothing of hunting as a science, and should not flatter himself that he is anything more than a good horseman, with, perhaps, a good eye for country.

Sect 4.—The Preservation of Foxes.

This being the primary and most essential part of fox-hunting, is necessarily the first thing for a master to attend to. Hounds may be bought even at a month's notice; horses may soon be got together if a cheque is only written for their value (real or supposed); but foxes *must* be bred, if sport is to be shown. Any number may be turned down in the autumn, but they will either be shot or trapped if the keepers are not otherwise ordered; or, if allowed by them to escape, and living till they are found by the hounds, being in a strange district, instead of making good their point they will be running circles like hares. The general

and, if possible, the ready consent of the owners of coverts being obtained, they should all be requested to see that their keepers do their duty; but the keepers should also be engaged in the cause by certain promises of reward for every *good* find. They should specially be informed that wild foxes only will be paid for, and that if the evidence is strong of the fox found being a bagman, they will be mulcted of their *honorarium*. An additional present for a good run will never be thrown away, as these gentlemen have more in their power than is generally known. These arrangements in subscription packs are usually left to the committee, and perhaps properly so, because the disputes with keepers are better kept out of the master's hands. Whenever the foxes are short in numbers, cubs must be obtained in the summer, or vixens turned down in the spring. There are in a great many hunts certain localities unfitted for this sport, and yet in which foxes are very apt to breed. Here the cubs may with propriety be dug out and turned down in some more favoured spot, as, for instance, in a gorse-covert in the middle of a good open country. Great numbers of French foxes and cubs are introduced every year into this country, but they are unfitted for hunting, and the best by far are the Scotch foxes from non-hunting districts, if these can with certainty be obtained. Of course every fox-dealer will account for the possession of his cubs, if requested to do so; but too often no questions are asked or answers given, and the fox or cubs are thankfully paid for from whatever quarter they have been obtained. Bad as this system is, it is so general that one act neutralizes another, and the fox-stealer only takes the trouble off the hands of the whips or earth-stoppers, who would have to look out for woodland cubs, if they were not taken possession of for the purpose of sale in another and perhaps adjacent country. The cubs, when turned down require careful feeding for some time, and seldom can take care of themselves until the end of September or the beginning of October. No master can calculate upon more than one half of his cubs turning up at the beginning of the season, the others not escaping the chances of death and imprisonment which the fox-dealer, the small farmer, and the badly instructed keeper are constantantly endeavouring to compass.

Sect. 5.—The Number of Packs kept.

At this time nearly 100 packs of fox-hounds are kept in England and Wales, exclusive of a considerable number in Scotland and Ireland. Each of these packs costs, on an average, about 1500*l.* a-year, some being three times as costly, and others again not costing half that sum. In England, therefore, a yearly expenditure of at least 150,000*l.* may be calculated on as the cost of the establishments alone, while, if to this is added the additional cost of hunters to mount "the field" attending each hunt, the whole outlay cannot be less than five or six hundred thousand pounds. In a national point of view, therefore, as supporting the breed of horses calculated for war purposes, this sport should be encouraged; and not only as keeping up a good supply of these useful animals, but also as keeping up to a high standard of health, the courage or pluck, and bodily constitutions of the men who ride them. Many obstacles are now interfering with these establishments—low rents of landlords, bad times for farmers (latterly never pleaded), the increase of railways, and the yearly progress of the plough—all combine against fox-hunting, which is becoming in some districts less popular than hare-hunting. How much of this is due to its own change of management, we shall, perhaps, hereafter explain; but that it is so, the lists of the two kinds of hounds sufficiently show. For my own part I care not, as far as the country is concerned, which sport is triumphant; but one or the other certainly ought to be encouraged for the sake of that country's welfare. Some countries are totally unfitted for fox-hunting, and are yet pretty well adapted for the pursuit of the hare, which takes a smaller range, and can often be well hunted on a few hundred acres. Let these, then, be reserved for her pursuit; but let the establishment be of such a character as to reflect credit upon its subscribers. Expense is not the criterion I mean; but let the hounds only be well hunted and well fed—which last is not a very expensive proceeding—and I am quite sure the number and quality of the horses kept for the purpose of following them will be quite equal to those which would be used with an inferior pack of foxhounds, hunting a country unfitted for the display of their peculiar powers.

Sect. 6.—Expenses of Fox-Hunting.

Nothing varies more than the bills of various packs of foxhounds. I have seen a pack, costing little more than 700*l.* a-year, show more sport in the same country than

another subsequently established, and costing 1400*l.* per annum. The following may be considered as the cost of two packs—one for three days, the other for five days a-week:—

ESTIMATE FOR A PACK OF FOXHOUNDS HUNTING THREE DAYS A-WEEK.

	£	s.	£
Huntsman	100	0	
First whip	70	0	
Second whip	55	0	
Feeder	30	0	
Earthstopper or fees to keepers	25	0	
Taxes on servants	4	0	
			284
Feeding 30 couple of hounds at 1*s.* 6*d.* per week each	234	0	
Medicines, dressings, &c.	6	0	
Taxes on ditto	36	0	
Expenses of walk, for 20 couple of young hounds	65	0	
			341
Six horses, for six months, at 15*s.* per week each	108	0	
Ditto ditto summering, at 7*s.*	54	12	
Shoeing	16	0	
Veterinary surgeon	6	0	
Saddler	15	0	
Tax on horses	6	0	
Helper in stable, at 12*s.* per week, for six months	14	8	
			220
Total			£845

ESTIMATE FOR A PACK OF FOXHOUNDS, HUNTING FIVE OR SIX DAYS A-WEEK.

	£	s.	£	s.
Men as before, with the addition of second horseman for huntsman, at 30*l.* per annum, and extra tax on ditto			315	0
Feeding 55 couple of hounds at the same rate	429	0		
Medicines, dressings, &c.	10	0		
Taxes on ditto	66	0		
Expenses of walk, for 30 couple of young hounds	100	0		
			605	0
Carried forward			£920	0

	£	s.	£	s.
Brought forward			920	0
18 horses for six months, at 15*s.* per week each	324	0		
Ditto, ditto, summering, at 7*s.* a-week	109	4		
Shoeing	30	0		
Veterinary surgeon	12	0		
Saddler	20	0		
Tax on horses	12	0		
Three helpers in stable, one at 15*s.* and two at 12*s.* per week	102	18		
			610	2
Total			£1530	2

These estimates are both exclusive of all fees to keepers and rents of coverts, &c., which vary in different countries so much, as to make it impossible to form any correct idea as to their amount.

SECT. 7.—DIFFERENT STYLES OF FOX-HUNTING.

Foxhunting in the eighteenth, and foxhunting in the nineteenth centuries are somewhat different pursuits; the former was truly hunting, from the time when the drag was hit off up to the end of the run, which generally lasted more than two hours. Contrast this with the speedy burst in the neighbourhood of Melton Mowbray in the present day, and one would scarcely recognise the two as being included under one head. In order that modern foxhunters may be able to compare the old style with the modern, I will here quote Beckford's imaginary run, given in his celebrated letters; reminding my readers that this was written little more than seventy years ago, when already the old slow southern hound was being replaced by the cross with the northern hound and the greyhound. Beckford begins by recommending the *hour of sunrise* as that for the meet. How would this suit the men of the present day, I wonder?

BECKFORD'S DESCRIPTION OF A RUN.—"Now, let your huntsman throw in his hounds as quietly as he can, and let the two whippers-in keep wide of him on either hand, so that a single hound may not escape them; let them be attentive to his halloo, and be ready to encourage or rate as that directs. He will, of course, draw up-wind, for reasons which I shall give in another place. Now, if you can keep your brother sportsmen in order, and put any discretion into them, you are in luck; they more frequently do harm than good; and,

if it be possible, persuade those who wish to halloo the fox off to stand quiet under the covert-side, and on no account to halloo him too soon; if they do, he most certainly will turn back again. Could you entice them all into the covert, your sport, in all probability, would not be the worse for it. How well the hounds spread the coverts! The huntsman is quite deserted; and his horse, who so lately had a crowd at his heels, has now not one attendant left. How steadily they draw; you hear not a single hound, yet none are idle. Is not this better than to be subject to continual disappointment, from the eternal babbling of unsteady hounds?

> "'See! how they range
> Dispersed; how busily this way and that
> They cross, examining with curious nose
> Each likely haunt. Hark! on the drag I hear
> Their doubtful notes preluding to a cry,
> More nobly full and swelled with every mouth.'
> SOMERVILLE.

How musical their tongues! and as they get nearer to him how the chorus fills! Hark! he is found! Now, where are all your sorrows and your cares, ye gloomy souls? or where your pains and aches, ye complaining ones? one halloo has dispelled them all! What a crash they make! and echo seemingly takes pleasure to repeat the sound. The astonished traveller forsakes the road, lured by its melody; the listening ploughman now stops his plough, and every distant shepherd neglects his flock, and runs to see him break. What joy, what eagerness in every face! Mark how he runs the covert's utmost limits, yet dares not venture forth — the hounds are still too near! That check is lucky. Now, if our friends head him not, he will soon be off. Hark! they halloo; by G—— he's gone! Now, huntsman, get on with the head hounds; the whipper-in will bring on the others after you; keep an attentive eye on the leading hounds, that, should the scent fail them, you may know at least how far they brought it. Mind Galloper, how he leads them! It is difficult to distinguish which is first, they run in such a style; yet he is the foremost hound; the goodness of his nose is not less excellent than his speed. How he carries the scent! and when he loses it, see how eagerly he flings to recover it again! There, now! he's at head again! See how they top the hedge! Now, how they mount the hill! Observe what a head they carry, and show me, if thou canst, one shuffler or skirter amongst them all. Are they not like a parcel of brave fellows, who, when they engage in an undertaking, determine to share its fatigues and its dangers equally among them? It was, then, the fox I saw as we came down the hill; those crows directed me which way to look, and the sheep ran from him as he passed along. The hounds are now on the very spot, yet the sheep stop them not, for they dash beyond them. Now, see with what eagerness they cross the plain! Galloper no longer keeps his place—Brusher takes it; see how he flings for the scent, and how impetuously he runs! How eagerly he took the lead, and how he strives to keep it! yet, Victor comes up apace; he reaches him! Observe what an excellent run it is between them; it is doubtful which will reach the covert first. How equally they run! how eagerly they strain! Now Victor! Victor! Ah, Brusher! thou art beaten, Victor first tops the hedge! See there, see how they all take it in their strokes! The hedge cracks with their weight, so many jump at once. Now hastes the whipper-in to the other side of the covert—he is right, unless he head the fox——Listen! the hounds have turned; they are now in two parts — the fox has been headed back, and we have changed. Now, my lad, mind the huntsman's halloo, and stop to those hounds which he encourages. He is right—that, doubtless, is the hunted fox! Now, they are off again. Ha! a check. Now, for a moment's patience. We press too close upon the hounds. Huntsman, stand still; as yet they want you not. How admirably they spread! How wide they cast! Is there a single hound that does not try? If there be, never shall he hunt again. There, Trueman is on the scent: he feathers, yet still is doubtful. 'Tis right; how readily they join him! See those wide-casting hounds, how they fly forward to recover the ground they have lost! Mind Lightning, how she dashes; and Mungo, how he works! Old Frantic, too, now pushes forward; she knows as well as we the fox is sinking. Huntsman! at fault at last? How far did you bring the scent? Have the hounds made their own cast? Now make yours. You see that sheep-dog has coursed the fox. Get forward with your hounds, and make a wide cast. Hark! that halloo is indeed a lucky one. If we can hold him on, we may yet recover him; for a fox so much distressed must stop at last. We shall now see if they will hunt as well as run; for there is but little scent, and the impending cloud still makes that little less. How they enjoy the scent! See how busy they all are, and how each in his turn prevails!

Huntsman, be quiet! Whilst the scent was good you pressed on your hounds: it was well done; when they came to a check you stood still, and interrupted them not. They were afterwards at fault; you made your cast with judgment, and lost no time. You now must let them hunt. With such a cold scent as this you can do no good: they must do it all themselves. Lift them now, and not a hound will stoop again. Ha! a high-road at such a time as this, when the tenderest-nosed hound can hardly own the scent! Another fault! That man at work, there, has headed-back the fox. Huntsman, cast not your hounds now! You see they have overrun the scent: have a little patience, and let them for once try back. We must now give them time. See where they bend towards yonder furze-brake. I wish he may have stopped there. Mind that old hound, how he dashed over the furze: I think he winds him! Now for a fresh *entapis!* Hark! they halloo. Ay, there he goes! It is nearly over with him; had the hounds caught view, he must have died. He will hardly reach the covert. See how they gain on him at every stroke. It is an admirable race; yet the covert saves him. Now be quiet, and he cannot escape us; we have the wind of the hounds, and cannot be better placed. How short he runs! He is now in the very strongest part of the covert. What a crash! Every hound is in, and every hound is running for him. That was a quick turn! Again another! He is put to his last shifts. Now Mischief is at his heels, and death is not far off. Ha! they all stop at once—all silent, and yet no earth is open. Listen! now they are at him again. Did you hear that hound catch view? They overran the scent, and the fox had lain down behind them. Now, Reynard, look to yourself. How quick they all give their tongues! Little Dreadnought, how he works him! The terriers, too, they now are squeaking at him. How close Vengeance pursues! how terribly she presses! It is just up with him! Gods! what a crash they make! The whole wood resounds! That turn was very short! There! now—ay, how they have him! Who—hoop!" This glowing description, except in the time fixed for the meet, is a beautiful account of what a run should be in the present day; but there is one remarkable proof contained in it, that the speed was in those days very different to what it is now. Suppose, for instance, a moderately-fast run in a grass country, and a terrier by chance started with the hounds, where would the little rascal be at the kill? Yet Beckford expressly mentions *the* terriers as squeaking at him before the kill while the hounds are running in the last covert. Now the terriers here alluded to can only be those belonging to the pack, which were formerly, indeed, part of the establishment, and which must have started with them when the fox was found. This speaks volumes as to comparative speed. I am quite sure that even in provincial countries a terrier cannot live with foxhounds of modern blood and speed; if he could, a pack of terriers would be better than foxhounds, for they can generally hunt lower than fast foxhounds. The remarkable patience and want of interference on the huntsman's part, in this account, would strike any one who is now in the habit of seeing the hounds perpetually lifted and capped to halloos,—whips sent on to points to view him, and to halloo if viewed, and all those *human* artifices rather than *canine* by which time is saved, and the fox so quickly killed. But all these artifices and pressing forward, it may be said, are now necessary, in order to get out of the way of the impatient field. Well, they may be so, and are, no doubt; but then, why should the field be allowed to be so unruly? This is the fault of the master, though of fashion also; for if this latter all-powerful motive power were to say that order in the field must be kept, no doubt the master's voice would be scarcely needed. As it is, the horsemen are vieing with each other for a good place, and are utterly regardless of the proceedings of the hounds, or of the necessity for giving them fair play.

THE DISADVANTAGES OF THE MODERN SCHOOL are, that hounds being so constantly taken hold of and lifted on every possible chance of doing so, they cease to persevere when in difficulties, and look to their huntsman for aid rather than to themselves and the delicacy of their noses. Hence, the evils react upon one another—first, the horsemen press upon the hounds, and, as a consequence, the hounds are obliged to be got forward out of their way; secondly, the hounds, in being thus constantly lifted for the above reason, are injured in hunting power, and cease to afford those beautiful specimens of the old-fashioned style of hunting, which will induce men, if anything will, to watch their proceedings with interest and caution, lest they should be disturbed. Nothing affords so strong an argument in favour of the old style of hunting as this double reaction of the errors of the present day; and the cautious riding

of the "thistle-whippers," as they are deridingly called by the fox-hunter, is a clear proof that hunting, when carried to perfection, will always be watched with attention. Observe the same men with foxhounds and harriers: with the former, they are all alive for galloping and getting a good place—jealousy of their friends is the predominant feeling, and the hunting of the hounds is not seen, or, if seen, is not regarded; but next day the same parties attend a "thistle-whipping" concern, and there they are all attention to the beautiful self-casts of the harriers or beagles, and admire as much as anybody their brilliant powers. I believe, even now, in spite of fashion, if a master would only be firm, and, after breeding his foxhounds with a little more hunt in them, would rigidly abstain, through his huntsman, from assisting them except in extreme cases, that, in a very short time, the field would pay that attention to their efforts which they now bestow upon their horses and themselves. At all events, it is worth trying the experiment in enclosed and arable countries, where it is impossible to vie with the grass countries in *pace*; but where in hunting a cold scent the hounds may display such powers as to attract attention and command respect. But even here discouragement meets the provincial master, for with the most delicate-nosed hounds he can scarcely expect that a scent will be made as much of over his fallows, as would be shown in Leicestershire by hounds not nearly such good natural hunters. None but a practical and experienced man can be a judge of these points, and such men are rare indeed in the hunting field. Nevertheless, I should much like to see the trial made, and in course of time, I cannot help fancying, that the system, if well carried out, would induce many to admire the genuine hunting of the fox under difficulties, as much, or perhaps more than the comparatively easy task of bursting one in the grass-lands of the crack countries.

CHAPTER IV.

FOX-HUNTING (*Continued*).

SECT. 1.—PACK TO BE OBTAINED AT ONCE BY PURCHASE.

No one now-a-days would dream of getting together a pack of foxhounds by breeding them himself from a bitch or two, without any considerable outlay. Such a plan is impracticable, because several important elements of success must co-operate at the same time, and will not wait for one another in idleness, as—first, the country cannot lie open and unused; secondly, the huntsman, whips, &c., would have nothing to do, and yet are required for a small pack as well as a large one; and thirdly, patience will seldom last long enough, even if the other elements were so accommodating as to allow of this mode of business. All these several items must, however, combine; and all *might* be kept dangling on but "the country," which will not wait; and which alone will put a stop to all dallying with such a fickle mistress. The moment, therefore, a master undertakes the important duty of "hunting a country," he must put his best leg foremost, and set about getting a pack of foxhounds in earnest. The country and the fox-preserving I have already dilated upon, and it now remains to consider how the procuring of the hounds is to be compassed in the quickest time, in the best manner, and at the most economical rate. These three items will form my guide in considering the subject in the following pages; being really those which ought to guide every prudent master throughout his career.

THE BEST MODE OF GETTING TOGETHER A PACK OF FOXHOUNDS, is to purchase a lot of draft-hounds from those kennels which your fancy leads you to select. In my own opinion, there is little choice in this respect; all hounds are well enough bred, and you may always succeed in getting together a good pack in a few years, from drafts obtained from any of our best kennels, if only you are careful in your subsequent breeding, kennel management, *and hunting*. I am quite satisfied, in hunting all depends upon the huntsman; and that a good man will always be able to make good tools, provided that he is not stinted in horses, meal, and whips; and has a good country with plenty of foxes. With these advantages he will readily make a good pack, but not always a good-looking one. It some-

times happens that too much attention is paid to looks, and good hounds are drafted from having coarse heads or throats, necks, &c., while neat but useless animals are prized and carefully retained. Draft-hounds may always be bought at three guineas a couple; and one quarter, or a third of them, will generally be serviceable for one or two seasons. The remaining two-thirds, or three-quarters, will, on trial, be consigned to a speedy death; and the result will be, that for thirty couple of tolerably useful hounds, from 200 to 250 guineas must be paid; and if this result could only be calculated on with certainty, it would be a cheap way of getting such a pack of hounds together. Unfortunately, however, it will be found that this number will be more than the average, though, with luck and some little judgment in going to work, the above has been accomplished on more than one occasion. Sometimes a good pack is to be sold; and if steady, well-bred, and well-hunted, it is cheaper to give 500*l.* for an entire pack of forty or fifty couple, young and old, than to buy drafts at three guineas a couple. One, two, and even three thousand guineas have been given for packs of foxhounds; but five hundred guineas is the usual and average price, and more than that is only a fancy one. But supposing a draft pack is determined on, and the country is a "three days a week" one, then you should purchase about from eighty to one hundred couple, according to your luck in the first drafts you buy; but, at all events, you must persevere in your purchases until you can reckon on fifty couple of *serviceable looking* hounds—that is, hounds which have no apparent bodily defect, such as lameness, blindness, &c. For it must be remembered that in drafts there must be no picking and choosing, but the lots offered must be either taken entire or refused. Such is the custom; and as they are the huntsman's perquisite, there is great reason for this liberal mode of dealing. Well, then, having at length got together fifty couple of useful looking hounds, they must be kept on till the month of August, when cub-hunting will soon show you which can be retained, and which must be discarded as useless, from their babbling, skirting, or slack running propensities. The head and tail must also be drafted at this time—that is, the very fast and the very slow hounds, because the beauty of a pack and their efficiency also are marred by one, two, or three leading away from all the rest, or by the same thing happening at the tail, but in an opposite direction.

Sect. 2.—Breeding.

This Pack thus got together then, must be kept up by Breeding; and if some brood-bitches are procured in February or March, something may be done in this way during the first summer. The best months, however, are March or April for this purpose, which would require the bitch to have been put to the dog nine weeks earlier. Of course at this time the young master of hounds must be dependent upon his longer established fellows for the sires of his whelps; but he will seldom have much difficulty here, unless he is very particular, or has a very limited hunting acquaintance. In subsequent seasons he must breed from twenty to thirty couple of whelps, if he wishes to attain anything like excellence in his pack; for out of these he will not choose to send out to walk more than half the number; or if sent, he will speedily weed them down to about from twelve to fifteen couple, which should be the young entry every year. If the bitches whelp very early, they should be allowed to have a warm place, such as a loose box or stall in a stable which is warm enough to preserve the whelps from the effects of cold; and the young puppies should not be sent out to walk before the end of April or the beginning of May, unless the person who is to rear them is one who will take care their growth is not checked by cold.

The Best Blood of the Present Day is to be found in the kennels of Lord Fitzwilliam, the Duke of Beaufort, Earl Fitzhardinge, Lord Yarborough, Lord Southampton, and Mr. Drake; however, these hounds are very much of the same blood, and have been bred one with the other to a great extent. No kennel could long be maintained in all its excellence without an occasional infusion of fresh blood; and though I believe in-and-in-breeding may be practised to a certain extent with advantage, yet if persisted in without occasional fresh infusions, it will ruin the constitution of either horse or dog.

The Working Excellencies of the foxhound, and for which he should be selected, are—first and foremost, the dash peculiar to his breed; secondly, a good nose; thirdly, a tendency to cast forwards, and never back like the harrier; fourthly, great power of endurance of fatigue, cold, and wet; fifthly, sufficient tractability, without having too much softness; and sixthly, perfection in drawing and hunting.

The Defects which should especially be avoided are—first, the throw-

ing the tongue too freely, commonly called "babbling;" secondly, mute running; thirdly, skirting, or a tendency to leave the rest of the pack, and not, as the foxhound should do, "scoring to tongue"—this is that excess of jealousy which should be avoided in the foxhound as much as it should be encouraged in the greyhound; fourthly, pottering and dwelling on the scent; fifthly, hanging in covert when hounds are gone away; sixthly, running riot; which means that the particular game which is being hunted should be adhered to, and all other considered as "riot;" thus, the fox and hare are "riot" to the staghound, while deer and hare are in the same category as regards the foxhound, and the deer and fox to the harrier. Some of these faults are easily broken by means of the whip, if necessary, or a severe rate in milder cases; and the three last only require the aid of the whipper-in, but "babbling," "mute running," and "skirting," are dependent upon a defect in breeding, which nothing will eradicate; and they also generally increase with age, so that little hope of amendment is afforded, and the rope or river must be resorted to at once.

THE SELECTION OF THE INDIVIDUAL BITCH should be very carefully made. Her pedigree, above all, should be such as to lead you to expect good performances in the field. I should never, certainly, breed from a foxhound or harrier bitch, however well formed, which had not shown good hunting qualities during at least two seasons; but even this recommendation would not suffice without good blood, and, in addition, shapes suited to her office. Exceptional cases of good hunting are common enough, even with mongrels; but though good in themselves, such bitches will not throw good puppies. In crossing her, due care will be taken to select such a dog as shall improve her good qualities, and eradicate bad ones. Thus, if she is too small, she should be put to a dog of good size, or *vice versâ*; again, if light in the body, a dog of full proportions in that department must be given her; or, if she is thin and weak in the feet, her mate must be remarkable for good understandings. On these principles the cross must be selected, and every pains must be taken to get what is the *desideratum* for her. After lining, the bitch may hunt for about three or four weeks; but from that time she must not be taken out for fear of injury to her burden, which then begins to show, so as to make her also unwieldy and short of wind. She should, however, be allowed her liberty, if possible; or should, if confined, be regularly exercised, since her health, and consequently the health of her litter, will suffer by entire want of this advantage. When near her whelping time, she should be allowed to choose her bed in some quiet corner of an out-house or loose box, or in that part of the kennel which ought to be especially set apart for breeding. She should not be allowed to get too fat; but still she should be maintained in good condition. The former is bad, as leading to difficulty in whelping, whilst the latter is necessary, because she will have to sustain great drains upon her constitution. When pupping great quiet is desirable, as many bitches are so nervous as to destroy or devour their whelps if alarmed. The usual attendant, whether feeder or kennel huntsman, should be the only person who should go near her; and he should always speak before opening her door. It is necessary, however, that he should occasionally visit her; because bitches are sometimes so long in labour as to demand assistance; and they also often require a little stimulating and supporting food, in the shape of broth, or even caudle. When the whelps are brought forth, the mother should have some gruel with the chill taken off, and after twelve or fourteen hours, a little warm broth or milk. After this, she should be well fed upon milk, or broth with a little flesh mixed in it. For other particulars, see the general management of bitch and whelps, under the article DOG.

SECT. 3.—REARING THE WHELPS.

THE YOUNG HOUNDS WILL REQUIRE TO BE ROUNDED, which is an operation for the removal of a portion of their ears, so as to prevent their being torn by the briers and thorns of the woods they traverse. Removing the ear entirely does great harm, and the cropped terrier is almost useless in covert, from the water getting into the ear, and from the want of protection to the delicate outside skin. But there is the happy medium to be preserved, and this is effected by rounding off the tips of the ears, and leaving only enough to guard the interior. It is a very easy operation, and requires only a steady hand and care to avoid cutting the two edges unequally long. The two layers of skin should be held firmly, and without allowing them to roll upon one another; and should then be cut through with a pair of sharp scissors. This should be done at about three or four months; for earlier than that is very difficult to cut off

exactly the right quantity, as some ears grow very differently to others at various ages. The dew-claws often require removal, if not sitting very close to the leg; and in all cases the claw itself should be drawn out by the teeth or nippers. If the claw is very prominent, the whole had better be removed at the end of the first week. At this time, also, it is usual to remove a small portion of the tail; but fashion now has reduced that portion to an infinitesimal dose. Before sending them out to their walks they should be branded, and duly entered in the list kept for the purpose. Now, also, the name should be given, selecting from the following list, which is equally applicable to the staghound, harrier, or beagle :—

Dog-Hounds.

A.
Aeton
Adamant
Adjutant
Agent
Ainwell
Amorous
Antic
Anxious
Arbiter
Arrogant
Arsenic
Artful
Artist
Atlas
Auditor
Awful

B.
Bachelor
Baffler
Barbarous
Bedlamite
Bellman
Binster
Binecap
Blueman
Blueboy
Boaster
Boisterous
Bonnyface
Bouncer
Bowler
Bravo
Bragger
Brawler
Brazenface
Brilliant
Brusher
Brutal
Burster
Bustler

C.
Caitiff
Caliban
Capital
Captain
Captor
Carver
Castor
Castwell
Catcher
Catchpole
Cathiller
Caviller
Cerberus
Challenger
Champion
Charon
Chaser
Chanter
Chieftain
Chiner
Chirper
Choleric
Claimant
Clamorous
Clangour
Clasher
Clinker
Combat
Combatant
Comforter
Comrade
Comus
Conflict
Conqueror
Conquest
Constant
Contest
Coroner
Cottager
Counsellor
Countryman
Courteous
Coxcomb
Craftsman
Crasher
Critic
Critical
Crowner
Cruiser
Crusty
Curfew
Currier

D.
Damper
Danger
Dangerous
Dapper
Dapster
Darter
Dasher
Dashwood
Daunter
Dexterous
Disputant
Downright
Dragon
Dreadnought
Driver
Dustman
Dulcimer

E.
Eager
Earnest
Effort
Elegant
Eminent
Envious
Envoy
Errant
Excellent

F.
Factor
Factious
Fatalist
Fearnought
Ferryman
Fervent
Finder
Firebrand
Flagrant
Flasher
Fleece'em
Flinger
Flippant
Flourisher
Flyer
Foamer
Foiler
Foreman
Foremost
Foresight
Forester
Forward
Fulminant
Furrier

G.
Gainer
Gallant
Galliard
Galloper
Gameboy
Gamester
Garrulous
Gazer
General
Genius
Gimcrack
Giant
Glancer
Glider
Glorious
Goblin
Governor
Grappler
Grasper
Griper
Growler
Grumbler
Guardian
Guider

H.
Hannibal
Harbinger
Hardman
Hardy
Harlequin
Harasser
Hazard
Headstrong
Hearty
Hector
Heedful
Hercules
Hero
Highflyer
Hopeful
Hotspur
Humble
Hurtful

I & J.
Jerker
Jingler
Impetus
Jockey
Jolly
Jollyboy
Jostler
Jovial
Judgment
Juniper

L.
Labourer
Lasher
Laster
Lanker
Leader
Leveller
Liberal
Libertine
Lictor
Lifter
Lightfoot
Linguist
Listener
Lounger
Lucifer
Lunatic
Lunger
Lurker
Lusty

M.
Manager
Manful
Mariner
Marshall
Marksman
Marplot
Marvellous
Match'em
Maxim
Maximus
Meanwell
Meddler
Menacer
Mendall
Mender
Mentor
Mercury
Merlin
Merryboy
Merryman
Methodist
Messmate
Mighty
Militant
Minikin
Miscreant
Mittimus
Monarch
Monitor
Motley
Mounter
Mover
Mungo
Musical
Mutinous
Mutterer
Myrmidon

N.
Nervous
Nestor
Newsman
Nimrod
Noble
Nonsuch
Novel
Noxious

P.
Pageant
Paragon
Paramount
Partner
Partyman
Pealer
Penetrate
Perfect
Perilous
Pertinant
Petulant
Phœbus
Piercer
Pilgrim
Pillager
Pilot
Pincher
Piper
Playful
Plodder
Plunder
Politic
Potent
Prater
Prattler
Premier
President
Prevalent
Primate
Principal
Prodigal
Prompter
Prophet
Prosperous
Prosper
Prowler

R.
Racer
Rallywood
Rambler
Rampant
Rancour
Random
Ranger
Ransack
Rantaway
Ranter
Rapper
Rattler
Ravager
Ravenous
Ravisher
Reacher
Reasoner
Rector
Regent
Resonant
Restive
Reveller
Rifler
Rigid
Rigour,
Ringwood
Rioter
Risker
Rockwood
Romper
Rouser
Router
Rover
Rudesby
Ruffian
Ruffler
Rummager
Rumbler
Rumour
Runner
Rural
Rusher
Rustic

S.
Salient
Sampler
Sampson
Sanction
Sapient
Saucebox
Saunter
Scalper
Scamper
Schemer
Scourer
Scrambler
Screamer
Screecher
Scuffler
Searcher
Settler
Sharper
Shifter
Signal
Singer
Singwell
Skirmish
Smoker
Social
Solomon
Solon
Songster
Soundwell
Spanker
Special
Specimen
Speedwell
Spinner

Splendour
Splenetic
Spoiler
Spokesman
Sportsman
Squabbler
Squeaker
Statesman
Steady
Stickler
Stinger
Stormer
Stranger
Stripling
Striver
Strivewell
Stroker

Stroller
Struggler
Sturdy
Subtle
Succour
Supple
Surly
Swaggerer
Sylvan

T.

Tackler
Talisman
Tamar
Tangent
Tartar
Tattler

Taunter
Teazer
Terror
Thrasher
Threatener
Thumper
Thunderer
Thwacker
Thwarter
Tickler
Tomboy
Topmost
Topper
Torment
Torrent
Torturer
Tosser

Touchstone
Tracer
Tragit
Trampler
Transit
Transport
Traveller
Trimbush
Trimmer
Triumph
Trojan
Trouncer
Truant
Trueboy
Trueman
Trudger
Trusty

Trial
Tryer
Trywell
Tuner
Turbulent
Twanger
Twig'em
Tyrant

V.

Vagabond
Vagrant
Valiant
Valid
Valorous
Valour
Vaulter

Vaunter
Venturer
Venturous
Vermin
Vexer
Victor
Vigilant
Vigorous
Virour
Villager
Viper
Volant
Voucher

W.

Wanderer
Warbler

Warning
Warrior
Warwhoop
Wayward
Wellbred
Whipster
Whynot
Wildair
Wildman
Wilful
Wisdom
Woodman
Worker
Workman
Worthy
Wrangler
Wrestler

Bitches.

A.

Accurate
Active
Actress
Affable
Agile
Airy
Aunty
Angry
Animate
Artifice
Audible

B.

Baneful
Bashful
Bauble
Beauteous
Beauty
Beldam
Bellmaid
Blameless
Blithsome
Blowsy
Bluebell
Bluemaid
Bonny
Bonnybell
Bonnylass
Boundless
Bravery
Brevity
Brimstone
Busy
Buxom

C.

Capable
Captious
Careless
Careful
Carnage
Caution
Cautious
Charmer
Chantress
Cheerful
Chirruper
Chorus
Circe

Clarionet
Clio
Comely
Comfort
Comical
Concord
Courtesy
Crafty
Crazy
Credible
Credulous
Crony
Cruel
Curious
Current

D.

Dainty
Daphne
Darling
Dashaway
Dauntless
Delicate
Desperate
Destiny
Diana
Diligent
Docile
Document
Doubtful
Doubtless
Dreadful
Dulcet

E.

Easy
Echo
Ecstasy
Endless
Energy
Enmity
Essay

F.

Faithful
Fairmaid
Fairplay
Famous
Fanciful
Fashion
Favourite

Fearless
Festive
Fickle
Fidget
Fiery
Fireaway
Firetail
Flighty
Flourish
Flurry
Forcible
Fretful
Friendly
Frisky
Frolic
Frolicsome
Funnylass
Furious
Fury

G.

Gainful
Galleyslave
Gambol
Gamesome
Gamestress
Gaiety
Gaily
Gaylass
Ghastly
Giddy
Gladness
Gladsome
Governess
Graceful
Graceless
Gracious
Grateful
Gravity
Guilesome
Guilty
Guiltless

H.

Hasty
Handsome
Harlot
Harmony
Hazardous
Heedless

Helen
Heroine
Hideous
Honesty
Hostile

I & J.

Jealousy
Industry
Jollity
Joyful
Joyous

L.

Lacerate
Laudable
Lavish
Lawless
Lenity
Levity
Liberty
Lightning
Lightsome
Likely
Lissome
Litigate
Lively
Lofty
Lovely
Luckylass
Lunacy

M.

Madcap
Madrigal
Magic
Maggoty
Matchless
Melody
Merrylass
Merriment
Mindful
Minion
Miriam
Mischief
Modish
Monody
Music

N.

Narrative

Neatness
Needful
Negative
Nicety
Nimble
Noisy
Notable
Notice
Notion
Novelty
Novice

P.

Passion
Pastime
Patience
Phœnix
Phrenzy
Placid
Playful
Playsome
Pleasant
Pliant
Position
Precious
Prettylass
Previous
Priestess
Probity
Prudence

R.

Racket
Rally
Rampish
Rantipole
Rapid
Rapine
Rapture
Rarity
Rashness
Rattle
Ravish
Reptile
Resolute
Restless
Rhapsody
Riddance
Riot
Rival

Roguish
Ruin
Rummage
Ruthless

S.

Sanguine
Sappho
Science
Scrupulous
Shrewdness
Skilful
Songstress
Specious
Speedy
Spiteful
Spitfire
Sportful
Sportive
Sportly
Sprightly
Stately
Stoutness
Strenuous
Strumpet
Suity
Sybil
Symphony
Syncope
Syren

T.

Tattle
Telltale
Tempest
Temptation
Termagant
Terrible
Testy
Thankful
Thoughtful
Tidings
Toilsome
Tractable
Tragedy
Trespass
Trifle
Trivial
Trollop
Troublesome

Truelass
Truemaid
Tunable
Tuneful

V.

Vanquish
Vehemence
Vehement
Vengeance
Vengeful
Venomous
Venturesome
Venus
Verify
Vicious
Victory
Victrix
Vigilance
Violent
Viperous
Virulent
Vitiate
Vivid
Vixen
Vocal
Volatile
Voluble

W.

Waggery
Waggish
Wagtail
Wanton
Warfare
Warlike
Waspish
Wasteful
Watchful
Welcome
Welldone
Whimsey
Whirligig
Wildfire
Willingmaid
Wishful
Wonderful
Worry
Wrathful
Wreakful

It is the custom to name all the whelps of a litter after the initials of sire or dam; but it should always be the endeavour of the person who chooses the names to select those as much unlike one another as possible, in order that the puppies may distinguish them with more ease.

THE WALKS FOR THE YOUNG HOUNDS should be chosen in such situations as that they shall be accustomed to all sorts of company, from children to horses, and shall not consequently be shy and retiring. Boldness in the foxhound is an essential point, and a shy one is utterly useless; he will not pass through a town, nor even face a cow feeding, but is constantly incurring the wrath of the second whip, from his lagging propensities. If a walk at a farm-house can be procured so much the better, or at a butcher's, or village inkeeper's. Wherever they are reared they should be well done, and not starved into the rickety frames which one often sees. Here they remain till after the hunting season is over, when they are brought back to the kennel, and at once are submitted to its discipline.

WHEN FIRST RETURNED TO KENNEL, the young hound is generally sulky at losing his liberty, and often refuses his food for some days; this does no harm, and no notice need be taken of him, when, in all probability, in the course of a few days he will recover his appetite and spirits. For some little time a low diet, with an occasional dose of castor-oil, should be adhered to, because the change is considerable, from the free roving life of "the walk" to the close confinement of the kennel. Little or no flesh is required at this time, and the free use of vegetables should be encouraged. For some little time these young hounds will often refuse to notice their new master, but by kind words and feeding them, they learn to attach themselves afresh, and may then be treated like any other member of this great family.

BREAKING FROM RIOT should be commenced from the very first day that the young hounds are taken out to exercise. This should be regularly carried on every day during the summer months, both with young and old; and all the young and unsteady hounds should be in couples; always putting together a young and an old hound, and dogs with bitches. In this way they may at first be taken out along the adjacent roads, choosing the more private ones in preference, till the young hounds know their names and attend to a rate pretty quickly. At first, until they are accustomed to their new huntsman, only eight or ten couple should be aired at a time; and for a day or two they should only be walked out in the paddock in couples, and caressed and fed by the huntsman. As soon as they seem to be pretty ready to own his voice, and to follow him at heel, he may take them into the roads, and after a time, varying according to circumstances, he may gradually increase his numbers, till he can venture to take out all the pack, unless a very large one. When quite tractable on the road, they should be walked through sheep and deer, beginning again with small numbers at first, and gradually, as before, increasing them. With sheep and deer, at first *all* should be in couples; and, after a while, a few at a time should be released; and when found to take no notice, they may be coupled again, and others set at liberty, till all have had the chance of showing their propensities without restraint. In this way, during the summer, the huntsman, by his kennel-management, already described, and by exercise as here detailed, teaches his pack obedience, and breaks them from riot of the above description—viz., from sheep and deer, which may almost always be met with in some park adjacent. Deer must especially be guarded against, because the scent is so tempting to all hounds, and seldom a week passes in the hunting season without the run leading through a deer-park. Very often, too, they may be broken from hare and rabbit-riot, during the summer, to a certain extent; but too much must not here be attempted, as the young hounds are easily made shy of hunting altogether if they are continually being rated, and never encouraged. Until, therefore, hounds are entered to their particular game, they must not be too much rated and broken from "riot;" but sheep and deer being of great value, must at once be protected; and on no account should cub-hunting be commenced till all the hounds are quite steady from them. A neglect of this precaution has led to great expense and annoyance, for as while exercise only is the motive couples may be kept on, while hunting itself is going on they cannot be confined, and the hounds having no mechanical restraint are much less manageable; and if they begin to run a flock of sheep or a herd of deer, they generally end by pulling down one or more victims. When once this blood has been tasted, there is no saying when and where the passion may return, and the hound, apparently cured by the whip, is never safe from a repetition of his frolic. Stop the tendency therefore thoroughly, early in

the summer, and never mind the fear of making shy the young entry. If they are well-bred, they will soon find out that something is meant when they are thrown into covert, and they will readily join in with their fellows when their game is afoot, though perhaps at first shy from fear of the lash.

THE AMOUNT OF DAILY EXERCISE during the summer months should be very considerable, since the hounds are only walked out, and seldom trotted. The huntsman should take them out early in the morning on the road, for a couple of hours, and may also do the same in the evening, in the paddocks, or on any grass hill of which he can command the use. Nothing but the time of the men ought to limit this essentially healthy part of the management of the pack; and as foxhounds are a very high-couraged set of animals, unless their energies are suffered to expend themselves in this way, they will, in the first place, be always fighting in kennel; in the second place, they will be under very little command; and in the third, they will be out of health. In the morning road-work the men should be on their horses, but in the evening on foot. In all cases when out with hounds, they should have their hunting-coats on.

SECT. 4.—ENTERING YOUNG HOUNDS.

In grass-countries by the month of August, in arable-countries as soon as the corn is cut, and in the large woodlands even before, the young hounds should be entered to fox. If the pack is altogether new, it will be prudent to take the old hounds out first, without any of the young entry, since many of them are sure to be altogether useless—some from incurable tendency to "riot," others from "babbling" propensities, and others again from hanging in covert, skirting, or slack hunting. There will, therefore, be quite enough to do for some days, to get the old hounds handy, and to decide upon which are so incurably bad as to be wholly useless, and even injurious to the young hounds. Some of these vices certainly do not show themselves plainly in the early cub-hunting; but the experienced huntsman may make a very good guess even on the first day a fox is found. He must not expect too much, but must be contented if he can get from fifteen to twenty couple of hounds tolerably steady from riot, and with hunting enough in them to drive a fox pretty hard in the woodlands. He need not yet care about the hounds "packing" well, nor can he yet judge of their powers in this respect; all that he has to do is, to get them to hunt steadily and perseveringly their own game, to avoid "skirting," and to turn to his horn quickly and readily. The hunting tendency is partly dependent upon breeding; but much must be owing to previous education. It is generally too late with draft-hounds to instil hunting into them; but if they are slack for want of blood only, by perseverance, even with a bad pack of draft-hounds, early in the season, a few cubs can be run into, and chopped, somehow or other. This will often, with a persevering and encouraging man, totally alter the disposition of a hound; for nothing is so infectious as the *manner* of the men. If they are slow and careless in cub-hunting, so will the hounds be, while if they are bustling and energetic, these qualities are rapidly imbibed, and the whole aspect of the pack is changed. I have seen this effected in a very short time when a slack pack has changed hands, partly from higher feeding, but chiefly from the determined energy of the men; they have become lively and full of dash, instead of looking dull, and hunting like slow harriers. The old hounds must at once be well flogged, if not free from riot, and the incurably bad ones must be drafted at once before the young hounds are entered.

WHENEVER THE OLD HOUNDS ARE TOLERABLY STEADY AND HANDY, but not till then, begin to think of entering your young ones; taking out five or six couple of them along with the steadiest and best hunters of your old pack, and remembering that *your chance of good sport through this season and the next* depends more upon your young entry than upon the old draft-hounds. No huntsman makes the mistake of parting with old hounds, unless they are either infirm from age, or are bad hunters in some form; but many men draft young hounds from their looks not pleasing the eye, or from their being too high or too low, or not being "suity," as it is called, and yet in doing so perhaps give you the best blood of their kennels, and a hound which will do you as good service as if picked out of ten thousand. Cherish, therefore, this young entry, and sacrifice time, cubs, and old hounds to make them perfect. On the first appearance of the young hounds, it is very desirable to find a cub as quickly as possible, for as they are sure to run something or other, if they have any sort in them, they will be likely to run "riot" if nothing else turns up; and the whip is a poor introduction to their first day's sport. Some even

go so far as to wait till the old hounds have found before they give the young ones liberty, keeping them in couples outside the covert till the cub is on foot. This, I believe, to be a very good plan, but as it is a troublesome one, it may not suit the notions of all. When once the old hounds are running a cub hard, and the scent is strong, the young ones rapidly chime in, and there is very little more trouble in urging them on. Hallooing, however, should be indulged in to any extent; encouragement is the order of the day, and too much devil can now hardly be infused. The sound of the huntsman's voice, if with his pack, also keeps them together, and prevents the young ones from losing themselves, which they might otherwise easily do. It should be understood that this cub-hunting begins at three or four o'clock in the morning, when, even in the summer, the air is cool and refreshing, and scent lies pretty well—though the ground being generally dry, it is not so good as in the autumn. After the cub is killed let the huntsman lay hold of him, and take him into the first open space he can find, then, before the blood of either fox or hounds has had time to cool, let him excite the hounds by a few cheers—not too long continued, however, and throw him to them. After this first-blooding it is better, if the morning is not far advanced, to draw for a fresh fox; choosing, if possible, an unsoiled part of the woodland, and proceeding to this chiefly in order to have an opportunity of rating the young ones for speaking to "riot," while under the fresh recollections of the encouragement which they have received in their entry to their own particular game. Much punishment should be avoided; a severe rate or two generally suffices; and, if possible, the whip should not be used so soon as this. If, however, a young hound chops a hare or rabbit, and will not drop it, let him have a taste of the whip, and be compelled to leave his dainty meal undevoured. If another cub is soon found, let him be killed also, if possible, or else marked to ground, and the hounds well encouraged after doing so; but do not by any means tire out the energies of the young entry, rather letting them leave off while still feeling a zest for their new sport. This is a very important consideration, as all means should be taken to inculcate a desire for the peculiar kind of game to which they have just been introduced.

Sect. 5.—Regular Cub-Hunting.

This should now be entered upon in earnest; and should, in September and October, be followed two or three times a week, or, with a very large entry, still oftener. Upon it depends the sport to be obtained during the coming season, not only as regards the hounds, but also in reference to the foxes. It should be known that cub-hunting and regular fox-hunting have two entirely different objects; the former being to prepare for future sport, the latter to afford present amusement to the field of sportsmen attending the meet. Cub-hunting is, therefore, merely a kind of breaking-in of the hounds and men to their respective places; and yet some sportsmen are particularly fond of this business—for sport it is not intended to be. I can easily understand this, when they are interested in the future success or failure of the pack, but cub-hunting *per se*, without any reference to the future, is, to my taste, a most tiresome affair. First of all, it requires a strong temptation to induce me to leave my bed at one or two o'clock in the morning, in order to reach a woodland-meet ten or fifteen miles off; secondly, there is little pleasure in crashing through thick tangled underwood, which at this time and season is heavy with dew on the leaves; and thirdly, the ground is so hard that a gallop is out of the question, and anything like a leap destructive to the joints of the horse. Few, therefore, would willingly undertake the task; but, nevertheless, it must be perseveringly conducted as often as I have stated, in order to effect two principal objects; first, the dispersion of the foxes; and secondly, the blooding and entering of the hounds.

The Dispersion of the Foxes is one of the most important features in cub-hunting, and one which is, perhaps, too often neglected. Foxes naturally prefer large woods, and especially those which so often are connected with others of a similar character. There are many districts where the soil is so unfit for grass, or to bear cereal crops, and is yet so well calculated for timber trees, that it is, and has been, long devoted to that purpose. These extensive woodlands are generally on the outskirts of the hunting country, and are often far removed from any populous neighbourhood; hence, they are chosen by the foxes; and these animals are often to be found in great numbers in these secure fastnesses, at a time when they are scarce enough in the best coverts. Now, if these large woods are never thoroughly routed during cub-hunting, there is seldom much chance of doing this afterwards, because they are

always unpopular meets, and are only had recourse to for want of foxes in coverts likely to afford good runs. The huntsman, too, often likes an early good run from a good covert, in preference to a tiresome and hard morning's work in the thick underwood; and if his heart is not in his work, or if he is not compelled to do so by his master, he will avoid trouble, and instead of doing good for the future, and driving out the foxes into the small coverts, he actually drives them back again into the large woods. This I have often known done, and especially by young masters themselves, who often like to go out cub-hunting, and have a quiet little spin to amuse themselves with; but such masters will seldom show good after-sport, and only eat bad pudding in September, instead of getting it good in November or December; for no run early in the season can be compared to a winter one, when the ground is cool, the scent good, the turf soft and elastic, and the fences may be taken by the hunter without fear of injury. Let, therefore, all masters, as well as men, bottle up their impatience till the proper season, and take care to avoid cub-hunting for pleasure. They should never enter, on any consideration, a favourite spinney or small covert, in the middle of a good hunting country, but should always stick to those woodlands where foxes are sure to breed, and where they may be killed in great numbers without injury to future sport; whence, also, they should be systematically driven. These large woodlands are almost always on the boundaries between two countries, and sometimes are hunted by two packs. In such a case every master will endeavour to drive out the foxes into his own country, and for this purpose will draw towards it, not entering them on his own side, but commencing to draw them as far as possible from it, and driving all out towards his own dominions. Much, perhaps, cannot be effected in this way; but it should be tried, nevertheless, for without a trial nothing can ever be done.

THE NECESSITY FOR BLOODING THE HOUNDS is the second and most immediate object of cub-hunting. Without blood even the pack in regular work soon becomes slack, and the hounds hang back, instead of getting forward with the true foxhound dash. Beckford relates a case in point, in a modest note, to the following effect:—"A pack of hounds which had been a month without registering a kill, at last ran a fox to ground, which the men dug out and threw to them. After this, their spirits were so renovated, that they killed seven days in succession." Now this *might* have been a run of luck, but most probably the marked change in their success was due to the cause to which he assigns it. However, all practical men are agreed that blood must be had even during the season; then, how much more necessary must it be before hounds are made to know their business, to give them blood.

AS SOON AS THE YOUNG HOUNDS ARE DULY ENTERED, and have had a fair share of blood, the pack may be hunted exactly as in the season, due reference being had to the remarks already made on the early hour necessary, on the propriety of drawing only the large woodlands, and on the imperative want of blood, almost daily, which must be had, somehow or other, either by marking to ground and digging out, or by chopping, or some other means. At this time, even bag-foxes are justifiable; for it is not until hounds are rendered fastidious by success, that they turn up their noses at bagmen with disdain. These animals cause disgust, because their scent, instead of possessing the due amount of fox-flavour suited to the hound's nose, has become rank by confinement and fear, coupled with constant irritation. The fox, in common with the polecat, cat, and all others of his kind, has a reservoir of offensive scent under the root of the tail, where it is secreted by certain glands for the purpose. When these animals are annoyed, as they are in confinement, this scent is found in large quantities, of a rank nature, and the consequence is that they smell, or rather, in common English, they stink most abominably. But when young hounds are first entered, they *can* hunt this strong scent better even than that of a wild fox, and they do so because they have not yet learnt to know better. If, therefore, wild cubs cannot be found, a bagman or two must be obtained, and turned down before the hounds, and they will afterwards work with redoubled zest. The bagged fox should be turned into some small covert free from wild foxes, as the hounds will be thereby encouraged to draw, which is one of their most disagreeable duties. The management of hounds in drawing, &c., will be considered under the chapter devoted to regular hunting.

CHAPTER V.

FOX-HUNTING (*Continued*).

Sect. 1.—Preparations for Hunting.

Several Duties devolve upon the Master preparatory to a hunting-day:—First, he should have previously given the usual notice of the meet; and it is advisable that this meet should be so fixed as to suit two or more coverts if possible, so that every attendant shall be obliged to appear at the place appointed, foot-people included. If this is not done, a great number will assemble at the covert to be drawn, rather than at the meet, and often they surround it so that no fox can break; but by this precaution, on taking the hounds on to draw the covert, the foot-people cannot anticipate them, and a fox has time to make his point before he is headed. Secondly, the hunting-pack must be drafted on the previous day, fed, early or late, according to the distance they have to travel, and separately shut up for the night. When drafting the hounds for the morrow's hunting, a list should be entered in the huntsman's book; and he should take a copy of this with him in hunting—so should the master, if he at all interferes in these matters. In making this draft it is usual for the huntsman to select the hounds which are the best suited to the particular country which is to be drawn, if he has sufficient numbers for that purpose; and also to proportion his pack to the strength and extent of the coverts. Thus, for an open country with nothing but small spinnies, eighteen or twenty couple are amply sufficient, while for large woodlands twenty-four couple will not be too many. Thirdly, the earth-stopper and keepers should have their orders what earths to stop, and whether to stop at night or in the morning, according to the season, for if in the spring, they must not be stopped too long, or the cubs may be starved, if there are any. All these preliminary duties should be carefully attended to, since a failure in any will affect the chance of sport on the morrow.

Sect. 2.—Going to Covert.

According to the distance from the meet must the start be made from the kennel. About six or seven miles an hour is the pace at which hounds generally travel on the road, except in very wet days, when eight miles an hour will better serve to keep hounds and horses from feeling any ill effects from this disagreeable attendant upon hunting. The hounds seem to know the hunting days, and are as impatient as the most ardent tyro. They are all life and animation on first bursting out of kennel, and are the better for a turn in the paddock to empty themselves before getting on the road. The men should then mount and proceed on their way, the first whip leading, with the huntsman in the middle of his hounds, and the second whip bringing up the rear. This order is maintained until their arrival at the meet. It is always advisable to avoid the crowded streets of towns as far as possible for fear of accidents, as it is not always that the hounds can be safe from the careless driving of carts or carriages, whose charioteers will not always pull up for them to pass. When arrived at the meet the men may tighten their girths, &c., but the hounds should be kept moving on the grass, and not allowed to lie about, except it be in the very warm and dry weather which is sometimes experienced at the beginning or end of the season. Hounds in going to covert are very apt to pick up bones, and will sometimes in their greediness for these unwonted dainties, swallow large ones. This should be prevented by the second whip, as their possession only leads to delay and quarrelling; and if of large size, and they are swallowed, they do not improve the wind.

Sect. 3.—Drawing.

No part of a huntsman's duties is so often performed in a slovenly manner, and yet none is of more consequence than the drawing of coverts. It is so unpleasant to all, that it is no wonder that it is shirked; but, nevertheless, it is like business with regard to pleasure, it should come first in importance, as in precedence. One of the most beautiful sights in fox-hunting is the perfect drawing of a pack of hounds. I have rarely seen it to perfection, because it is seldom that the eye can command the covert so as to get a bird's-eye view. But in the Heythrop country some of the best coverts are merely willow-beds under the sides of the hills; and there I have seen the hounds, when under Lord Redesdale's

mastership, drawing in a style which elicited my admiration, as well as that of all the field. Every square yard of covert seemed to have its allotted hound, and they drew from one to the other, and back again, so as to leave no single patch of ground untried. No hound could be seen following another, but, apparently, each cautiously avoided this common defect. It happened on one occasion that this was conspicuous, through a long series of blank-draws, on the same day, and still, even to the last, these persevering hounds spread out and drew their ground as closely as ever. It was, I recollect, a great disappointment to me to meet with a blank-day, after travelling more than forty miles to the meet, especially as, from the rare occurrence of such an event, I did not expect it; but the gratification afforded by the perfection of the drawing, quite made up for the loss of the expected run. The first thing the huntsman does is to send the pack into covert with a wave of the hand, which is all the signal that ought to be required; then, entering himself, he takes the line which he wishes his hounds to follow, keeping a little behind the body of his hounds, but well with them. Much will depend on the size of the covert as to the proceedings from this time. If large, the draw is made up-wind, and the first whip is sent on to the point where the fox is most likely to break, in order to view him away, and save time by hallooing, which signal is of course at once acted on by the huntsman. If the woods are very large, it is no use for the first whip to go to any *one* point outside—he must rather select some ride or break, which the fox must cross at some distance a-head of the body of the hounds, and, as they approach, quietly slip off to a second and more distant one. He will thus have a good chance of viewing the fox as he crosses, and at last may post himself at the outside, at the point where foxes usually break from that particular covert. I need not say that, while engaged in this occupation, strict silence should be kept, and no one should approach the whip for any purpose, much less enter into conversation with him. Some masters, when drawing large coverts, station five or six men in different parts, and give them a separate signal. This is of great use, and is certainly carrying out Beckford's rule to the fullest extent. In this case, also, much noise is to be avoided, as it is not desirable to drive the fox out of his kennel far before the hounds; the second whip should be a little in the rear of the huntsman, and should urge forward the lagging hounds. It is most important that the huntsman should himself penetrate the thickest parts of the covert; it is here that the fox will most probably be lying; and many a one has been drawn over unfound, from the dislike of the huntsman to set the example to his hounds. They will go anywhere with encouragement; but a slack huntsman is soon imitated, and if he leaves untried the thick part of the underwood, so will his pack. The field seldom can judge of these things, because they seldom are where they should be, in covert, but are talking, laughing, and cigar-smoking, often where the fox is most wanted, or, most likely, to break. If they would all enter and assist the huntsman inside, they would be as useful as they now too often are the reverse. As soon as the first challenge is given, the first whip should be all attention to his duty, and carefully watch, by eye and ear, for his charge's appearance. If he sees him, no notice should be taken till he has reached the first fence from the covert; but as soon as this has been gained, he should screech and halloo in such a way as to bring every hound, with the huntsman, to the spot in less than no time. Thus is a fox well found, which is the first item towards killing him. If, however, the covert is small, it is not necessary to take all these precautions; but, the huntsman entering with his hounds, the whips may each take the skirts outside the fence, so as to see the fox break before them, driving every hound which appears outside into covert; and thus, with as much noise as they like, the spinney or gorse may be threaded. Here the fox seldom gets away far enough before the hounds to require caution; and the moment the scent is owned, they settle to it, and are away.

But it often happens that foxes in large coverts when first found, instead of breaking at once, run ring after ring inside, and at last break down wind, at the point where the hounds entered. These are generally foxes which have been unkennelled just before the hounds, and perhaps headed by the whip, or by some other person who is trying to be over-clever. Sometimes these rings are repeated so often, that the whole covert is foiled by the hounds so constantly running over the same ground, and the consequence is that they cannot hunt a yard. This is a most annoying affair, and tries the temper of all parties more even than a blank-draw. Whenever it happens, and the hounds begin to throw up, and really *cannot* hunt, it is better to take them

away to some other covert than to persevere in this hopeless pursuit.

Sect. 4.—The Run.

"Gone Away! Gone Away!!" resounds through the covert, and every nerve is strained by master, men, hounds, and field to fill their respective stations with due credit. The first whip now is a gentleman at large, in comparison with his previous duties, and need only ride so as to be at hand in a moment, in case of difficulty. He should now carefully husband the powers of his horse. The second whip should bring up the tail hounds, and see that none are hanging in covert, using his whip and tongue pretty freely to compel all to get "forrard," which is constantly now to be in his mouth. Thus they stream over hill and dale. After leaving the covert the huntsman gives a few notes on his horn, and a cheer or two, then places himself by the side of his hounds; carefully watching them, and taking advantage of every bend in the leading hounds to cut corners and thus be with them. He thus sees when and where the scent fails in case of a check, and is able to notice any facts which may assist him in his cast, if necessary; as, for instance, the presence of sheep, or deer, or a plough at work, or a sheep-dog, or the scent ceasing at a road or river, or fifty other such occurrences. Upon these facts, trifling as they appear to unlearned eyes, the skilful huntsman founds his calculations, and acts according to them. At this time the master should be in the rear of his huntsman, and ready to restrain the field from pressing upon the hounds, if necessary. Presently a check occurs, and, "Hold hard, gentlemen!" should be the order from the master before mischief is done. The hounds now, if used to cast themselves, will do so without a moment's loss of time, and spread right and left, or wheel in a body, in order to recover the scent. It is extraordinary how clever some hounds are in this self-casting; and how, if left to themselves, they try every stratagem likely to occur to a dog's imagination. But there are many facts which they do not grasp, and of these the huntsman takes advantage; nevertheless, I believe that, if left to themselves, hounds would in the long run kill more foxes than if interfered with too much. Here, as in every other pursuit, moderation is the great virtue, and the huntsman who interferes at the right time, and then only, is the man who is to be applauded. But though hounds when left to themselves will kill their foxes, yet they do not kill them *secundum artem*, because the hunting of the fox is now considered to be a compound operation, partly canine, but partly human; and therefore if the biped is ignored by the quadruped, and the latter can do without him, the only party who can use his tongue in intelligible language is sure to throw it pretty freely.

The First Check is the trial of both hounds and huntsmen. Time is now precious, for the fox is travelling; but "most haste is often worst speed;" if, therefore, nothing very evident presents itself to the huntsman as the cause of the check, by all means let the canine instinct have fair play—for a very short time at all events—and then cast them in favour of some reasonable proceeding which the huntsman's brain may have devised, as that which the fox has employed in his defence. Now the scent is either hit off, or fails altogether; and, in the latter case, what is to be done? Either wait for a "halloo," or at once lift the hounds to the point which the fox is most likely to make, and this is generally the nearest covert. Halloos are ticklish affairs, and the man who attends to them indiscriminately, when he does not know by whom they are given, is sure to mislead himself and his followers, in nine cases out of ten. As long as the scent is owned it is better to work it out, unless a halloo which is to be depended on is heard, and then it should certainly be attended to; but if hounds are lifted from the scent and disappointed, they soon become slack, and lose that confidence in their huntsman which is the strong link between him and them.

But a common accident occurs perhaps in the run—the hunted fox is changed for a fresh one. It happens, unfortunately for foxhounds, that the fox, unlike the deer, loses scent as he goes on; the deer, as he warms, sweats and emits a very strong scent with it, which falls on the ground, and increases mile by mile; on the other hand the fox, like the dog, its congener, never sweats, and what scent it emits is gradually lost during the progress of the chase, becoming fainter and fainter, though generally lasting for the length of a run. Hence, while the deerhound sticks to the hunted deer, by preference for its scent, the foxhound is tempted by the fine fresh scent of a newly-roused fox to take after him in preference to the sinking animal before him. Hence the difficulty in which the huntsman is placed, for the natural powers of the dog would here mislead him, and it is in this predicament that foxhounds

most want his aid. For this also he must always be on the look-out, especially in covert, when running his fox through. During this time it is very important that he should be with them, and that his first whip should be on the other side of it, in order to view any fox which breaks, and decide whether he is the hunted one or not, whilst, at the same time, he may be able to halloo forward the huntsman and hounds, if all is right. But there are some signs which may indicate the hunted fox, as, for instance, the following:—Supposing the hounds divide, then the huntsman should be able to know in which lot are the leading hounds at the time of the division; to these he should stick, regardless of those who were skirting at the time; and the whipper-in should stop the others, if possible, and bring them to him. During a division the second whip should wait anxiously for orders, and be ready to act in a moment when he sees to which side the huntsman is leading. Now all goes on again, and the hounds are running breast-high; soon they press still more eagerly forward, and the huntsman can perceive the fox hard pressed only a field before him; at this time he fancies that his prize is won, and halloos and screams to encourage his hounds, which then certainly do not want it. Alas! his hopes are damped, for, after carrying on to the middle of the next field of turnips, they throw up their heads, and cannot own the scent. What can have happened The fox *must* have lain down in the hedgerow, or run down the ditch; but the horsemen are so forward that all idea of hunting back for him is out of the question, and the hounds must be lifted to the hedge. Here, after a careful cast, he is hit off, and at last, run into only a hundred yards or so from the line, being fairly blown, and lying in the ditch.

Sect. 5.—The Kill.

It is usual, when hounds have killed their fox, for the huntsman to dismount, and get in among them, for the purpose of laying hold of the fox and removing it, in order to "worry it." This done—in order that the hounds may recover their wind, and that the tail-hounds shall be encouraged as well as the leaders—the fox is held aloft, and the huntsman or whip gets into a tree, or on a high bank, holding the fox towards the hounds. The cheers and noise are then redoubled, and the baying of the hounds in addition, constitute a chorus most gratifying to the sportsman's ear. Presently the fox is thrown among the hounds, and soon torn limb from limb, and eaten. Such is the finale of this exciting sport, in which the energies of so many have been long engaged.

Sect. 6.—Running to Ground.

This happens sometimes as a finale to a run, instead of a kill or losing the fox, and is certainly a better finish than this last conclusion, the most unsatisfactory of all to the good sportsman. When hounds have marked their fox well, and there is no doubt about his having gone to ground, they may, after some few minutes, be taken off to some fresh "draw," or home, if the day is too far gone. Sometimes, however, it is desirable to dig out or bolt the fox, when hounds have been short of blood; and then, a terrier having been procured, he is put in, and soon pins the fox in some corner where he is heard baying him. Over this point the spades should be used, and soon come down upon him in the ordinary way. Sometimes, however, though rarely, the fox is bolted by the terrier, and may even run the gauntlet of the hounds, and escape, as has happened on some occasions. The use of the terrier is to mark the exact situation of the fox, and to prevent his digging on further, which he will often do in sandy soils. Sometimes in shallow spouts or drains a terrier may be made to lay hold of the fox, and, by withdrawing him, the fox will be brought out. If he can be reached, a whip-thong should be first introduced, in the hope of taking off the fox's attention from the dog, who has then a better chance of escaping his teeth.

Sect. 7.—On Scent.

No single subject connected with hunting has received so much attention as this, and for this simple reason, that none is so difficult to settle, from an ignorance of the laws which govern it. But not only do we know nothing of its laws, but we also are at sea with regard to facts, for of these we have none upon which certain dependence can be placed. One party asserts that different foxes have different scents; and consequently that scent varies with the individual fox; but, says another, "scent varies in a few minutes with the same fox—then how is the individual the cause of the variation?" There can be no doubt that this often happens. We have all often seen on the advent of a hail-cloud, scent melt away as if by magic; although over the same country it was previously a good one. But what is there that we have not seen? that

is the question in reference to scent. One thing may be said—viz., that we have seen no one fact with regard to scent which could be considered so constant as to form the basis of a rule. Is even "the southerly wind and the cloudy sky" a certain prelude to scent? I trow not; and I should be sorry to depend upon it. Living for many years in a bad scenting country, I have been saluted on all occasions with prophecies as to scent; but never did I find the man whose foretellings were worth a farthing. Scent must be either good or bad, or indifferent, on any given day; and therefore it is an even chance that any opinion given beforehand will be right, because the indifferent scent will do for either, and will be claimed by both parties. Yet I never knew any man receive general credit for knowing anything on the subject, practically. I believe, however, that scent really does depend upon the individual fox, and moreover that this scent is constantly varying with his hopes and fears. My impression is, that it is only partially dependent upon his skin, and that when that only emits the scent hounds have a difficult task. Did any of my readers ever catch a cat in a trap set in a room? If so, they will surely remember the rank scent which pervaded that room; and which was not produced by the skin of the cat, but by its anal glands. So with the fox. When first disturbed he emits a considerable quantity of this scent, and if hard pressed at first, it is produced in great quantities, and to such an extent as to enable hounds to hunt breast-high; hence the advantage of pressing him early, for the more he is pressed the better scent he gives; but if this scent is gradually and slowly emitted, as it is when he is suffered to go his own pace without fear, the result is that the hounds are less and less able to own it, and he has a fair chance of escaping. Again, supposing a change of atmosphere from a cloud, or whatever other cause may produce it, these glands suddenly cease to emit their scent, and the change is as rapidly transmitted to the hunting of the hounds. The soil and air have much to do with the "bad scent," and with the skin-scent, but with this glandular scent his fears and anxieties are the chief agents; or, in the state of repose, his hopes and desires. This theory will, I think, explain some of the anomalies of scent, but that it will do away with all difficulties is beyond my fondest fancy. When we know all the intricate laws connected with and governing the electrical condition of the air—that called ozone and the laws of storms—we may hope to improve our knowledge of scent; but perhaps then it may elude our grasp. If, however, attention is paid to nature it will, I think, be found that however useless in practice, the above is the true theory of scent as regards the fox. At all events it explains some of the facts which before were at variance with each other; but it will only explain the strong variations in scent, and will not affect the ordinary rules which Beckford gives, and which every one re-echoes, though not exactly believing in them. Such, however, as they are they should be known, and are given by him as follows:—"It depends chiefly on two things—*the condition the ground is in, and the temperature of the air*; both of which should be moist without being wet. When both are in this condition the scent is then perfect, and *vice versâ* when the ground is hard and the air dry, there seldom will be any scent. It scarcely ever lies with a north or an east wind; a southerly wind without rain, and a westerly wind that is not rough, are the most favourable. Storms in the air are great enemies to scent, and seldom fail to take it entirely away. A fine sunshiny day is not often a good hunting-day; but what the French call *jour des dames*, warm without sun, is generally a perfect one—there are not many such in a whole season. In some fogs I have known the scent lie high, in others not at all; depending, I believe, on the quarter the wind is then in. I have known it lie very high in a mist, when not too wet, but if the wet should hang upon the bushes, it will fall on the scent and deaden it. When the dogs roll, the scent, I have frequently observed, seldom lies—for what reason I know not; but, with permission, if they smell strong when they first come out of kennel, the proverb is in their favour, and that smell is a prognostic of good luck. When cobwebs hang on the bushes there is seldom much scent; during a white frost the scent lies high, as it also does when the frost is quite gone. At the time of its going off scent never lies; it is a critical minute for hounds, in which their game is frequently lost. In a great dew the scent is the same; in heathy countries, where the game brushes as it goes along, scent seldom fails; when the ground carries, scent is bad, for a very evident reason, which hare-hunters, who pursue their game over greasy fallows and through dirty roads, have great reason to complain of. A wet night frequently produces good chases, as then the game neither like to use the covert nor the roads. It has been often remarked that scent

lies best in the richest soils, and countries which are favourable to horses are seldom so to hounds. I have also observed that in some particular places, let the temperature of the air be as it may, scent never lies." Beyond this nothing, as far as I know, has been added to our knowledge of the laws of scent.

Sect. 8.—On Drafting Hounds for Faults.

The characteristic of the foxhound is "dash." As the harrier can scarcely be too cautious, so the foxhound can hardly be too fast, *if only his nose is good.* The combination, therefore, of these two points should be encouraged, and all old and slow hounds, however good they once were, must be drafted. Few hounds retain their dash after five or six seasons; and though they can hunt a cold scent then perhaps better than ever, they will dwell too long upon a good one, and will thereby only do harm to the younger hounds. Let not any feeling of favouritism keep these oversteady old hounds in the hunting-pack, but discard them at once whenever their places can be supplied by younger and more vigorous hunters. Inveterate skirters, also, and conceited babblers, by all means hang—they are not worth keeping a day, and deserve no mercy. Hounds should carry a good head, and not follow one another like a flock of geese; and each should seem to struggle for an opening. It is remarkable how various are the powers of different hounds: some seem to hunt best in covert; some can pick out a cold "pad scent;" whilst others again, though not otherwise faster, can rattle away with a breast-high scent, and beat their rivals at that particular point, though, with the fox in view, they might again be over-matched. But the various classes of hounds seem themselves aware of these variations, and depend upon one another for assistance—Rattler, Rainbow, and Admiral giving way to Jowler, Concord, and Beauty at certain conjunctures, and again appearing to resume their positions by sufferance, whenever that conjuncture has passed by. Nothing does so much harm to hounds as leaving them in covert to hunt "riot" unchecked. The second whip ought, therefore, to be careful in getting all away; and he had better be out of the run altogether than leave four or five couple behind him; they learn all sorts of bad tricks, and if some are left every day, almost any pack is speedily ruined. Nothing is more wonderful than the power which hounds have of threading their way through horsemen, and reaching the body of the pack. With a Leicestershire field this is truly marvellous; and when the pace is considered, it will be admitted that it is difficult to account for the way in which tail hounds get forward; but if they do not, they are useless, and they also should be drafted.

Sect. 9.—The Duties of the Men.

The Huntsman.—The general duties of the men have been already alluded to in the preliminary chapter; but I shall now say a few words on those which are peculiar to the hunting of foxhounds. In the first place, the huntsman must be a man in the prime of life, a good and bold horseman, and able to be with his hounds wherever a horse can live. Beckford was of opinion that the huntsman's office is not so important as that of the first whip; and in his days, when hounds were a good deal less interfered with than now, perhaps such was the case. But now-a-days a huntsman must be a very superior man; for he must interfere a good deal, or lose his character for "fastness;" and yet, when he interferes, he must really do something or another in a way superior to that which the hounds themselves would have followed. His casts, consequently must not be general casts, which the hounds themselves would have managed as well as he; but they must be with some particular object in view, and that object ought to be really founded on observation and experience. Beckford says, "I am very well satisfied if my huntsman be acquainted with his country and his hounds; if he ride well up to them; and if he have some knowledge of the nature of the animal which he is in pursuit of; but so far am I from wishing him to be famous, that I hope he will still continue to think his hounds know best how to hunt a fox." In the present day however, if a huntsman is not "famous," his hounds will have a poor character, and the sport will not be considered as good as it should be. A huntsman's temper should be good, both for the sake of his hounds and for that of the field; and he should revel with delight in his business, not following it solely for a livelihood, but enjoying it with as much zest as the youngest of his followers. His language to his hounds should be good, and his manner to them of an animated character, whether encouraging them or repressing their ardour. The dog-language chiefly used by the huntsman is—"Hark! hark! to Governor!" when Governor speaks, and

is deserving attention; or, when encouraging all to draw, he cries, "Yoicks! yoicks! there, have at him! Rout him out! Push him up! At him again, boys!" These are his chief words of encouragement. The horn brings hounds to his heel in casting or lifting, or in leaving covert, and is always a signal for the second whip to bring on tail-hounds. The great misfortune is, that the huntsman of a pack of foxhounds requires an old head on young shoulders, which is seldom met with; in fact, Hector and Ulysses in one would not be a more improbable combination than that desirable in the model-huntsman. I can conceive no situation more trying than that of a huntsman when things *will* go wrong; a bad scent, a short-running fox, an impatient field, and an easy-tempered master, are enough to try a Job in pigskin. Some excuse, therefore, should be made for such trying circumstances; but when ill success lasts all through a season, or perhaps two, no man should be astonished at grumblings on the part of the attendant "field." Success will generally in the long run be commanded if it is deserved; and if a man has a good head, a good seat, a good eye, and, above all, a fox-hunter's heart, he will generally both deserve and command success. "Scrutator," who has lately written a series of interesting letters on hunting and hounds, appears to lean to the system of non-interference, and thinks, with many others, that the modern system of lifting over fallows, and all kinds of halloos, is a bad one. This opinion, coming from a gentleman-huntsman, is a very valuable one, because these are generally the men who delight most in exercising their own talents in preference to those of their hounds. But, after all, it is a question of taste, and it is not to be decided by the number of foxes killed in each way, which is not a decisive test, but rather by the general opinion as to which way is most consonant with the preconceived idea of sport. If the number of kills is to be received as decisive in all cases, shooting birds sitting, or shooting into "the ruck" of a covey, ought to be praised; but the reverse being the case, is an example of the rule not applying in all cases. While, therefore, the present fashion lasts, the huntsman must interfere whenever he thinks (*and is right in thinking*) that he can do so with a prospect of advantage—not waiting till the hounds cannot hunt, but always lifting or casting when he is satisfied that his doing so will gain time in pursuing his fox. Such I believe to be the modern rule, and if so, it requires, as I before remarked, a better head than does the office of first whip, although his duties are by no means light and easy. In remarking on the duties of the huntsman of a pack of foxhounds, I have passed over his kennel-duties, and those which refer to entering his young hounds, because they are pretty much the same with all hounds and huntsmen, and have already been sufficiently insisted upon in the preliminary chapter on Hunting. The following twelve rules may be useful to the young huntsman:—

Rule 1.—Avoid extremes in interfering with hounds, for though too much assistance will destroy their hunting powers and make them slack, too little will make them tie on the scent, and hunt *heel*.

Rule 2.—Always cast on the most likely ground first—taking a hedge, for instance, in preference to the open field; and casting rapidly or slowly in proportion to the goodness of the scent.

Rule 3.—Be careful not to mislead hounds, let them always know what is the precise nature of the work to be done.

Rule 4.—Always make good the cast in each direction before trying another, and do not have to go over the same ground twice. In returning from a bad cast over soiled ground, trot as quickly as possible, as the hounds then are not to suppose themselves doing anything.

Rule 5.—When it is *probable* that the fox is headed back, if a forward cast is first decided on, let it be a very short and quick one, and do not lose more time than necessary in that direction.

Rule 6.—When hounds are running in covert, if the fox is seen *in* a ride, and not *over* it, no attempt should be made to interfere with the hounds, as they must hunt very carefully to avoid over-running the scent.

Rule 7.—Although the horsemen are better in the covert than out, yet they should not be riding all over the wood, or they will foil the scent.

Rule 8.—When a fox is hunted up to a farm-yard or village, great care should be taken not to leave him behind. The hounds are very apt to overrun the scent for half a mile or more, when there is the hallooing of the farmer and his men, or of the villagers, and the fox may escape by taking refuge in any outhouse.

Rule 9.—The heel-scent is sometimes stronger than the right scent, in consequence of the wind favouring it.

Rule 10.—When a fox runs his foil in

covert, the tail hounds may be lifted and thrown in at head (Beckford).

Rule 11.—When hounds are seen to be perfectly unable or unwilling to cast themselves, and are apparently bewildered, the chances are that the fox is headed back.

Rule 12.—If many foxes are a-foot, it is better to let the hounds divide and hunt all of them at once, as by these means all are equally distressed, and one is sure to break; when the remaining hounds may soon be got up to the hunted fox by the efforts of the whips.

THE FIRST WHIPPER-IN is truly a Jack-of-all-trades; he is expected to rate hounds, and stop them from riot on all occasions, as well as the second whip; yet, in case of the huntsman's absence from the field, from any cause, he must be able to hunt them as well as he does. Now, every one knows that half of the power of the huntsman over his hounds is vested in their personal attachment to him, and that *cæteris paribus*, the man who best succeeds in making his hounds fond of him, in the summer and in kennel, will do most with them in the hunting field. Yet the first whip, who is always to be rating and using his whip, is at once to step into the huntsman's shoes, and show sport as well as if every hound was accustomed to fly to him, instead of from him. Next, the first whip must be able to foretel the exact point of the fox in breaking covert, and ought to be there to see him; or, if in a larger covert, he ought to be *wherever he is wanted*, which is rather a large space to cover. Then, if the fox unexpectedly takes a line which leads to open earths, the first whip must get there before him, let the pace be what it may, or the maledictions on his head will be many and loud. Such are his greatest difficulties, often so great as to be insuperable; but the regular duties he may fulfil in a satisfactory manner, and they are chiefly the following: and even in these he may easily exhibit extraordinary talent:—He must, of course, be a good horseman, and should be a tolerably light weight; the more under 11 stone the better, and never over that weight. In stopping hounds, never let the whip begin to rate them before heading them, but gallop well before them, and *then* begin to smack his whip and rate them. This is particularly necessary when in the open, but it should also be attended to in covert. While the hounds are running many slight offences may be passed over; which, however, should be treasured up, and considered in aggravation of punishment on the next similar offence. When not running no offence should be passed over, and if the rate and whip are not attended to, the hound should be taken up and well flogged. When hounds are very riotous, it has been the custom to introduce the subject of their riot to the kennel, and flog them well in its presence, rating them the while; but this is certainly a bad plan, and quite unnecessary, if due care is taken in the summer to accustom hounds to riot, two or three couple at time. When these means have been taken in the summer, and the whip sufficiently used then, the rate "Ware-hare," or "Have a care," or "Ware-sheep," will generally nip such offences in the bud; and that is the time when they are the most easily prevented. Besides these rates, the first whip should chiefly use the halloo on viewing the fox, and should be able to give it artistically; thus—"Taally ho! taaally ho!! taaally ho!!! Go-n-e away! go-n-e away!! go-o-n-e aw-a-y!!!" followed by the peculiar scream which no words will convey. If, however, the fox is headed back, he alters his note to "Tally ho! back! Tally ho! back!!" and, with a smack of his whip, sends the hounds into covert again as fast as they appear. In assisting the huntsman to get hounds out, not by the whip, he uses the words, "Elup! eluppe!! eluppe!!!" One thing a first whip should especially guard against, and that is, the giving the huntsman any cause for jealousy. This feeling is always sufficiently near the surface, and if encouraged, adieu to all hopes of co-operation on the part of two men whose duties are as much connected as is the right hand with the left. If, however, the huntsman fancies that the whipper-in is trying to show off at his expense, or to supplant him in the estimation of the hunt, he is sure to endeavour to lower him, and in so doing he interferes with sport; and the same is the case with the whip himself. They can do as much harm by opposing one another, as good by co-operation. Many think that a good whipper-in makes a good huntsman, but the two offices are so very distinct that it rarely is the case. The one has a limited field of operations, and has confined himself for many years to that field in which he has been activity itself, and has rivalled "the varmint" himself in skill and daring. The other has a much larger field, and requires to know not only the habits of the fox, but those of the hound as well; also, the natural history of everything upon which his eye falls in the hunting field: the habits of the crow, whose flight often indicates the line of the fox; the habits of

sheep, who often in the distance may be seen to indicate the fox's presence among them; the peculiar style of hunting of each hound, who each often tell him something of what is going on; and lastly, the general features of the part of the country which he is hunting, upon which much depends in his casts and lifts.

THE SECOND WHIP has a much more easy place, as far as head-work is concerned, but his hands will find full occupation, even if he had a dozen pair. He must look out for riot in covert, and stop it quickly and decidedly; he must be ready to bring up the tail-hounds, and on all occasions work to the huntsman whenever he is getting his hounds forward, and lifting them either in covert or out. "Forrard, forrard," is his everlasting cry, and the acting up to it his chief duty. If he does this well, and takes care to leave no hound behind him, he will fulfil his duties to everybody's satisfaction.

SECT. 10.—POINTS OF DIFFERENCE FROM STAG-HUNTING.

STAG-HUNTING being a sport in which the game is to be saved, hounds must necessarily be easily stopped; they must therefore be very tractable, which, to a certain extent, is desirable with foxhounds, but still not so much so as with staghounds. Nothing perhaps would be more difficult than to save a fox close before a pack of foxhounds, and many a vixen in the spring pays the penalty of this excessive desire for blood. Without it the dash of the foxhound would be lost, and the chief beauty of the sport marred; it would indeed sink into tameness, and the high price at which it is purchased would be totally thrown away.

SECT. 11.—POINTS OF DIFFERENCE FROM HARE-HUNTING.

HARE-HUNTING, as we shall presently see, is a sport totally different from fox-hunting; and requires different men, different horses, different hounds, and a very different field. Harriers should certainly never be interfered with, and should be able to carry on their hunting under every difficulty. It must be remembered that the hare is always above ground, and that the hounds ought to be able to pick out her scent through every disadvantage; consequently, time is of no consequence, and the end must always come if only the hounds can continue to hunt. Patience, therefore, may have full play; and the huntsman has little to do but to watch his beauties, and admire their wonderful efforts to outmanœuvre the turns and doubles of the hare. As Beckford observes, fox-hunting without its spirit would be no longer fox-hunting; it would be as stale small-beer to champagne. The harrier or beagle is always at work, but is content to do that work "slowly and surely;" he should never be hurried; while the foxhound's dash leads him to try forward and get on as rapidly as his nose will allow him to do. With a strong bold fox this quality is very necessary, and no true harriers or beagles would reach him; but with a short-running and bad one, the case is different; and then the latter hound would perhaps succeed better than the high-bred foxhound. But when foxes take a straight line, hounds must race as well as hunt; and it is their great peculiarity that they are capable of doing this. Beckford distinguishes hunting the fox from fox-hunting; and, to illustrate his position, shows that a hackney, though he runs a race, is not therefore a race-horse. The foxhound therefore ought to be kept to his own game, and not to be used for the hare, whose style of running he is not suited for. If hares are to be raced into, greyhounds are the appointed dogs; and it is a poor kind of coursing when the hounds occasionally stoop to the scent, and at other times run their hare in view. Fox-hunting in its very essence implies courage, impetuosity, pace, and dash in all engaged; whilst hare-hunting is inseparably connected with cool, cautious, old-gentlemanly discretion and wile. Towards the end of a run the difference is very remarkable. The foxhound *vires acquirit eundo*, is more and more full of dash, and as he catches view is literally frantic with excitement; but throughout the hare-hunt the same steady and beautiful, but calm kind of hunting goes on; and even at the kill the hounds seem scarcely to enjoy their bloodless victory. Beagles cannot possibly be too tender-nosed, provided they are all alike and pack well; but the foxhound may easily be so, if he is thereby tempted to tie on a scent and potter, whereby time is lost, and the fox escapes to his earth. FOX-HUNTING IS THE SPORT OF YOUTH AND EARLY MANHOOD, and is rarely enjoyed to the fullest extent after that period of life is gone. Few men after forty-five can get up the steam sufficiently to enter into it with all the zest which it is capable of inspiring; and though many who have passed their grand climacteric join in its pleasures, it is generally without also partaking of its perils. A perfect hunter and a little riding

to points will generally suffice for the prevention of accidents, but the sport is not then enjoyed as it was at thirty ; nor is it really partaken of in all its glories and perfections. How seldom do we see any man above the age I have specified at all near the hounds! Certainly there are some brilliant exceptions, and especially with some of our most prominent huntsmen of late years, whose grey hairs seem no impediment to daring horsemanship, and proper and efficient assistance to hounds. I have heard of some men who prefer a tough beef-steak to one cut from a tender London rump, because the former lasted longer than the latter; and with them perhaps a four or five hours' fox-chase is the perfection of the sport; but though I like to see hounds left to themselves a good deal, I confess it is only that they may get on the faster, not dwell the longer on a scent. All hounds go fast enough with a good scent, but no hound can go the pace which a foxhound can with a bad one ; and in this is another point of difference between the two hounds. It must be remembered that during every minute lost, the fox is nearing his point of safety by some hundreds of yards; whilst in the case of the hare she is only crouching close to you in all probability. For all these reasons foxhounds should always be above their work, in order to retain that dash which is so highly prized; while harriers can scarcely be too much worked, as thereby they are rendered sufficiently steady and ready to stoop.

Sect. 12.—Bag-Foxes.

Whenever bag-foxes are to be used, they should be hunted solely for the purpose of giving blood; and if it is intended to depend upon them entirely, a pack of harriers will serve the purpose much better than foxhounds. They run much more like hares than wild foxes, and, not knowing where to look for earth, they do not take a line; and consequently are soon run into by foxhounds which will condescend to hunt them. Old hounds which have tasted good, sweet, and healthy wild foxes, will scorn such carrion; and the fact of a bag-fox being shaken out before hounds by the keeper, is often clearly indicated by the best hounds refusing to take their usual leading places at the head of the pack. Harriers, however, will hunt bagmen with great alacrity; and the sport is very similar to a run with the hare; and, as displaying all the excellencies of the beagle, is not to be despised. I should much prefer such a sport with a good pack of full-sized beagles, to the slow sport which is afforded by bad foxhounds in a bad country, where foxes are perpetually lost, or changed, or chopped; and where a good run is a rare exception.

Sect. 13.—Consequences of a Severe Run.

When hounds have had a very severe run, they require some time to recruit; and the same pack should not be again taken out for three, four, or five days, if it is possible to avoid it. In all cases, the hardest working hounds suffer the most, and they must have rest, while those which have husbanded their powers, must make up the pack with the hounds which were left at home on the occasion of the hard day. When hounds have been very severely tested, they often take a week to come round, and should have it at all costs, as these are the treasures of the pack, and if they are overworked, will sadly injure its brilliancy. Hardworked hounds should have a little extra flesh; but this will not entirely do away with the necessity for rest, and, carried to extremes, will only make them mangy, and full of humours. Lame hounds, also, ought to have full time to recover, and should never leave the kennel till quite recovered; it is a stupid and cruel plan to take out lame hounds in order to make up the numbers. They must lag behind, and only occupy the time of the second whip, in getting them taken care of at some keeper's house or labourer's cottage. It is far better to start with short numbers of useful hounds, than to cheat the eyes of the uninitiated, by taking out a lot of cripples to the meet—a practice which every sportsman soon condemns in the hearing of the whole field.

Sect. 14.—Necessity for Blood.

It is commonly, and indeed almost invariably, said that foxhounds must have blood ; and, since the time of Beckford, the saying is constantly paraded. But though some blood is necessary, yet it by no means follows that it is well for the hounds to kill every fox they find. Even were it possible, it would not, I think, increase their dash, or add to their hunting; for an occasional disappointment is more likely to give zest to success, than if the constant termination by a kill was the gaol to which all hounds look forward without a doubt or fear. Observe how differently an old greyhound runs when he thinks there is a chance of losing his hare ; he then puts on the steam,

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and is a different animal from what he was when he thought ultimate success as certain as fate. And so with the foxhound; if he finds blood always reward his exertions, he will not try nearly so hard as he would do if he was doubtful of success. Hence, how often we see, after a week's bad scent, a good pack go off with a fair scent, and run as they never ran before. Such dash! such a head! as never was seen. They have been disappointed day after day, and are savage *for want of blood.* But this must not be carried too far; if they are hopeless of success, they will become slack, and in time this is always the result of bad management. Hounds soon learn to know if they are well hunted; and, like race-horses, they do not half answer to bad handling.

CHAPTER VI.

HARE-HUNTING.

Sect. 1.—Hare-Hounds—and how to procure them.

The varieties of hounds for hunting the hare have been already mentioned at page 121, under the heads of Harriers, Medium-Beagles, Dwarf-Beagles, Fox-Beagles, and Terrier-Beagles. I shall therefore now proceed to describe, as in fox-hunting, the best mode of obtaining a pack. It will be evident that here time is no object, for a man may spend half-a-dozen years in procuring a pack if he likes; and I am inclined to think he would succeed the best by so doing. A pack of hounds to the exact taste of the intended sportsman is seldom in the market, and the first thing a purchaser does is to set to work to get rid of certain peculiarities inherent in his bargain. Thus, they are too high or too low, or too fast or too slow, or too flashy or too low hunters; or some other fault will be found which destroys his pleasure in hunting them. There is such a vast difference between the two extremes, and so many shades to be met with, that few men can exactly please themselves with any but bantlings of their own breeding. Besides, a man can easily breed six or eight couple of hounds in one season, and these, with a few old and steady hounds, will serve very well for him to begin with. He will also, if he hunts them himself, be better able to manage a small pack, and may teach himself and them at the same time. I should therefore advise intended masters of hare-hounds, unless they meet with a pack *exactly* to their minds, to set to work and breed, rather than to buy an indifferent pack. Three or four bitches should be selected of the exact size, blood, and symmetry which are desired, and any price given for them. Let no moderate sum be considered too high to procure this nucleus of the future "little terribles;" for upon them all depends, since, whatever they are, such will be your young hounds, subject always to the change produced by the cross with the intended sire. Now, it will be seen at page 122, that I have recommended the beagle-blood to be selected in preference to the foxhound for hare-hunting, because in them are developed to the highest extent the hunting powers of the old tender-nosed hound, with sufficient pace only to allow the hare to exhibit all those wiles which serve to display the hunting of the hound. Unlike the fox, the hare cannot save herself but by her doubles; and the beagle has full time to follow her in all her mazes and wanderings. The hare-hunting foxhound, on the contrary, presses her too much, prevents her running in her natural style, and races into her in a most bastard and unnatural manner, comprehending the bad features of both kinds of hunting without their good ones. By all means, therefore, I should steer clear of that cross, except in a very remote degree, or in very small hounds which bear the foxhound cross without injury, because, with all their dash, they cannot press the hare sufficiently to prevent her display of doublings.

If the purpose, however, is to get together a pack of average-sized harriers, say of about eighteen to twenty inches, the less foxhound-blood they have the better. Of course it may be easy to err in the opposite extreme, and to get hounds which will sit down on their seats of honour (if they have any), and throw their tongues in the most melodious manner without stirring their legs. Such animals are absurdly slow, and will please no one, I should imagine; nor, indeed, would they be easy to procure in the present fast age. But plenty of

tender-nosed harriers can be procured, with more or less foxhound blood in them; and the brood-bitches should be selected according to taste from these hounds. These bitches will also serve to enter the young pack, for, as the dash and speed of the foxhound are not wanted in hare-hunting, their age and caution will be exceedingly useful in picking out the scent when the young hounds are in difficulties. The full-sized and naturally fast modern harrier is particularly adapted for running trapped hares, when a gallop of twenty minutes is all that is desired, or that can be expected. These hares run as straight as a fox, and in very much the same style, often topping the low fences like a dog, if hard pressed. They do not try the hunting powers of the hound, because, in the first place, their scent is strong; and in the second, their ignorance of the country they are in seems to prevent all attempt at safety by artifice, and they run straight till picked up by their followers. Small and comparatively slow hounds are here out of place, displaying neither the pace which may be obtained with the trapped hare, nor the beautiful hunting met with in the wild one. The small drafted foxhound is very little different from those modern harriers, but not having been so long confined to hunting the hare, is not so well suited to hare-hunter's purpose; and I should prefer breeding from such a pack as the Blackmore Vale Hounds, which are true foxhounds in blood, though long used to hunt hares. These hounds are very fast, and burst their hares generally within half-an-hour; they have also excellent noses, but they are too fast, in my humble opinion, for the sport of hare-hunting. Occasionally a quick hare, or one of the down hares, may stand before these hounds for miles, and show as straight running as a fox often displays; but if such is desired, why not hunt the fox at once, in which you will get such runs constantly, and not as exceptional cases? If harriers are to be used as a means of giving a gallop, trapped hares are by far the best, and for them these dwarf foxhounds are fully adapted; but if for showing true and close hunting, without reference to pace, we must go further back towards the old southern hound to procure a hound suited for the purpose. Nevertheless, as all may not think alike, it is well that every one should know how to procure that which will produce exactly what he wants. This I have endeavoured to show, and also to point out how the pack may be bred exactly to suit the taste of the master; but if that plan is considered too slow and long of accomplishment, two or three packs are generally sold every season, at a price varying from 60 or 80 guineas to 500 guineas; the latter being a very high price for harriers, though 700*l.* is said to have been once given for a celebrated pack. From these one may be selected, and if it does not answer the purpose, it is no fault of mine.

Sect. 2.—Breeding.

When the choice is made of a particular kind of hound, it is necessary in the pack of harriers, far more than in foxhounds, that all should be bred to that standard. This is not only desirable on account of looks, but also on the score of efficiency; for, if hounds are not of the same size and form, they are much less likely to pack well than if all are cast in the same mould. Let the bitches, therefore, be all as much as possible alike and of the same blood; though, for after-convenience of breeding, not too nearly related. Then put them all to the same dog, or to similar ones, for if they are put to dogs of various sizes and blood, the progeny will vary also in externals as well as in style of hunting. It is well known that breeding in-and-in will not do if carried too far, but with harriers it may be carried to a great extent, and thrice in to once out will keep up in a pack a sufficient amount of strength of constitution. Supposing, therefore, two couple of bitches have been bred from, they will, in all probability, throw from twelve to fifteen couple of whelps; and with a little aid from other bitches, for which purpose many may generally be obtained at the right time, that number may be reared. These must be sent out to walk at two or three months old, and, with good luck, ten couple of young hounds will come in towards the beginning of January, and may be at once subjected to kennel-discipline, and in a month's time may be entered to hare; which, however, they should never run for more than an hour or so in the day during their puppyhood. These hounds, however, may be entered much earlier than foxhounds, but the larger dog-puppies should be kept until the autumn. The management in kennel is the same as already described under the first chapter on Hunting, and the breaking from riot also; remembering that for them hare is not riot, but the contrary. Much time is gained, and great advantage in every way results, from entering harriers to their game at this early age; and I am sure that the development of the taste for the sport is in a ratio with

its early instilment; besides, as these hounds have not the courage of the foxhound, so they are less calculated to bear any loss of this quality; and yet, during the next summer, they must be constantly exercised, with the whip and rate perpetually going, though the less these are used the better. But if they have been entered, their natural propensity to hunt has been encouraged and gratified, and they will afterwards bear some degree of rating pending the summer. During this first entering and the next season, it will not be possible to be very strict in drafting hounds, because there is little choice, and the master must make up his mind to rub through this time with what he has, looking forward with pleasure to the future as the time of perfection. By again breeding the same number of whelps, at the end of the first season he may begin to draft, as he finds there is a probability of supplying their places with more efficient and elegant substitutes; and by the beginning of the second season he may take the field with a good-looking pack of perhaps eighteen or twenty couple of hounds, which, if not quite up to all the dodges of the hare, are at all events soon likely to be—that is, if properly managed, and not too much interfered with. This plan will produce a pack in two or three years, at only a few pounds' expense, for walking and keep of hounds, over and above the original price of the brood-bitches. It will also afford the master the pleasure of feeling that he has bred his pack to his own model of perfection; and if he has not fully succeeded, he will be sure to console himself by the belief that he has approached it as nearly as possible. We are all prone to hug ourselves in this way, and a great happiness it is to most that human nature is so constituted. Every man's goose is a swan in his own eyes, however manifest its anserine properties are to all the rest of the world.

Sect. 3.—Peculiarities proper to the Men.

The Huntsman, who is also with harehounds generally the master, should be a very different person from the huntsman of a pack of foxhounds. Sometimes a young man succeeds in this task; but more frequently he fails from want of temper and patience; and the age which is best suited for the sport is that at which man usually has arrived at some degree of control over his natural impulses. Still there are some exceptions to this rule, and I have seen harriers exceedingly well hunted by very young men. But, whatever the age of the huntsman, he should be quiet, persevering, cautious, and free from meddling, and should trust to the noses of his hounds in preference to his own head. Beckford recommends that the huntsman of a pack of harriers should be bred from a female of the family of the "quiet gentleman" in the "Spectator," crossed with a knowing huntsman; and probably this cross would suit; but, as with the poet so with the huntsman, *nascitur non fit.* He must be taken as he is framed by the Almighty; and few are so framed as to fit them for the management of harriers till they have sown a crop of wild oats in other and more exciting amusements. The chief art of the huntsman here is in breeding his hounds, and in drafting them, so that they shall be "suity," and pack well; for when once they are in the field, little or no interference is necessary. They should be as handy as kittens, and should scarcely require a whipper-in; and indeed some of the best packs I have ever seen have been without that appendage. By constantly taking out hounds in summer, and breaking them from riot, and by feeding them after drawing each by name, and otherwise getting control over the hounds in the summer season, it is seldom that any occasion occurs for the office of the whip. If the huntsman rides well to them, he is always near enough to them to interfere when this is wanted; and the hounds are not cowed by the needless display of power, which, if placed in the hands of a whip, is sure to be exercised. But the critical eye of the master is always employed, though he may otherwise be idle, in watching the actions of each hound, and noting his hunting and his pace, also in detecting skirting and babbling, and in deciding upon all the various qualities which will lead him to draft certain hounds, or to breed from others. This is interest sufficient for any man; and to a real lover of hunting it is a most delightful amusement. A comparison may here be drawn between getting a perfect pack of beagles together, and putting four horses in harness so as to exhibit a perfect team. In both cases any one can manage them when broken; but the artist is shown in getting them all to pull together, and to be exact repetitions, the one of the other. In a four-in hand team, one horse ought not only to be like the others in size, colour, and shape, but his action should be the same, his carriage the same, and he should do exactly his own share of work, and no more. This is the

perfection of four-in-hand driving, and a very difficult task to accomplish satisfactorily; and so it is with harriers or beagles—they may easily be handled when well matched; but it is in the matching that the huntsman's power is shown. He therefore requires a great knowledge of individual character in the hounds, so as to select those only which exhibit what he wants in great perfection, to breed from, and to cross with those which will develope still further those good qualities, or suppress the bad ones.

The Whipper-in should be a mere groom, solely intended as a second pair of hands to those of the master; and he should never be allowed to use them without orders. With a gentleman hunting his own pack, such an assistant is very desirable, for holding gates open, turning hounds, keeping them from tying on the scent, and from riot, &c., all which are tiresome tasks, but may be easily performed by one pair of hands, if the owner of them does not mind the trouble.

Sect. 4.—Preparations for Hunting.

The pack intended to hunt on the following day should be drafted and fed at about twelve or one o'clock, and then shut up. From twelve to fifteen couple are quite sufficient for hare-hunting; and the hounds ought to be all equally free from lameness, and very level in condition. Beyond this nothing is requisite, as there is no earth-stopping to be attended to, or public notice of the meets; but the privileged few should have their information in good time, which is arranged in different ways, according to the different cirumstances of the pack. Sometimes harriers are publicly announced to meet two or three times a week, but the injury done to the crops and fences by the field, if numerous, is so great, that there will always be great objections to this. Hares almost always take a ring, and often the same fields are run over several times; and consequently much greater damage is done than in a straight run, as with fox-hounds. It is only, therefore, where hounds have a great reputation that farmers will allow their land to be thus sacrificed; but in some neighbourhoods the sporting tendency is so strong as to overpower the love of gold, and with them the result is, that a well-behaved field of horsemen is always welcome. There is never any excuse for wantonly riding over turnips, or young wheat, or seeds, with harriers, because the pace and direction are seldom such as to compel the maintenance of a straight line, and a slight detour to avoid such crops will never much interfere with the enjoyment of sport. Some excuse may be made for the field of fox-hunters riding over any crop, let it be what it may, in the ardour of pursuit; but even then some little care should be taken to avoid doing injury to one's neighbours; but in the pursuit of the hare, the man who does such a thing deserves to be well rated by the master, as well as the sufferer, for his thoughtlessness.

Sect. 5.—Hare-Finding.

The Form of the Hare, or, as it is sometimes called, her seat, is very easily seen by some men, and with as much difficulty by others. This does not seem to depend upon quickness of sight only, for I have known many who could see long distances, and were very quick-sighted, who never could find a hare in her form. Others, again, of comparatively weak sight and slow habits, were sure to find her if she was within view; so that it may be considered as a knack or gift, a good deal dependent upon the powers of observation. Much depends upon the observance of colour, for it appears to me that this is the chief guide. I have generally observed that quick hare-finders have corrected a mistaken "See, ho!" by the remark, "No, that is too red for a hare;" or, "That is too green." Never, "That is not the right *shape*," but always the difference being referred to colour. It is probable, therefore, that good hare-finders have a very delicate perception of the shades of colour, and by that faculty are able to find the hare in her seat. Hares sit in different situations, according to the weather, and should be looked for accordingly. Thus, in windy weather they get out of its way, and sit on hill-sides under the lee of the wind, or under the protection of a hedgerow, and not far from it. In dry weather they affect damp and marshy grass bottoms, and in wet weather will only be found on high and sandy banks. They seldom sit on their feeding-ground, though this rule is not an invariable one. Fallows are a very favourite and chosen seat for hares, and when there they generally choose their forms near the top of the ridge. Fallows newly ploughed are never used by the hare for much less than a fortnight, and very stale ones are also rejected. It is difficult to account for this last rejection, because we cannot understand why a stale fallow should be disliked by the hare; but so it is, and the fact is well known to the hare-finder Some

fields also are much liked, year after year, by hares, and others as much rejected; but here again no one can assign a reason, since their food has nothing to do with the choice, and we know nothing of their other peculiarities. In hare-hunting, it is very desirable to find the hare sitting, because she may otherwise sit so close as to be "chopped" before she gets away, a consummation to be carefully avoided; and at the present usual hour of meeting, the trail up to the form can seldom be hit off, in consequence of the hare having too long been in form to have left any scent on her road to it; though in this way hares are much more easily found than foxes, the scent of whose drag is much more faint than that given out by the trail of the hare. The hare-finder therefore, if possible, finds the hare for the master, who brings up his hounds to within a reasonable distance, and then the hare is put up out of view; immediately after this the hounds are laid on the scent, and the run begins. If this cannot be managed, and no hare is found by man, the hounds proceed to draw for puss on the most likely ground; and as the hour of meeting is, as I before remarked, generally too late for the trail, they spread themselves over the land, in the hope of finding her in her form. The objection to this is that the hare always gets up in view, and is frequently chopped; but if she escapes this early death, the view makes the hounds flashy and unsteady, and prevents them settling down to the scent as they would have done if not excited by the view. Much, however, depends upon the hounds and upon the hares, also upon the kind of hunting preferred; for if the fox-hound style is preferred, this flashy kind of hunting will not be rejected. If a hedge is to be beaten, a man or two should advance a few yards before the leading hounds and beat it well, or otherwise the hare in jumping out is sure to be chopped. In any case the drawing of the hounds is a very beautiful sight, and the careful trying and even-spreading of the little symmetrical animals is one of the prettiest parts of the sport. Hounds, when thus accustomed to find their hares, take a great delight in looking for them, and go on from tussock to tussock, and from one likely spot to another, in the most lively yet knowing way—reminding one of the peering ways of the magpie, by their sharp and quick, yet quiet style of trying every likely spot. This part of hare-hunting has always appeared to me the one in which it may assume a superiority over fox-hunting; for here the eye finds an opportunity of dwelling with admiration in the minutes of expectation, whilst in drawing for a fox, it is but seldom that the expectant and impatient fox-hunter can find any amusement or occupation, except in his cigar or the gossip of the covert-side. Next in beauty to the working of a brace of pointers or setters, I should place the drawing of a pack of "suity" beagles or harriers; it is, to my taste, not far behind that beautiful picture, though the find certainly does not come up to the "set and back" of the shooter's grand assistants.

Sect. 6.—The Run.

The artifices of the hare are truly wonderful, and beat those of Mr. Wily hollow. Why the fox should have obtained this name in preference to the hare, is very unaccountable; for every man conversant with hunting is aware that the hare is ten times more cunning than the fox in her doubles and running devices. If she is watched before the hounds, she will be seen to go straight away while in view, and then to commence a series of doublet, which certainly must require a degree of reasoning power for their development. She returns on her track perhaps, then makes three or four enormous jumps, and starts off again, at a right angle with her former course; she will then, if in a wall-country, jump on to the top of a wall, and run some yards along the top; then, descending with a long jump, she will perhaps squat till she ascertains the success of her manœuvres. After this, if unsuccessful, she will try others, such as running through sheep, or through a covert and back again, coming out at the same meuse and running up the ditch, and off again on a fresh circle. Often she will pass by a furze or thorn bush, at the distance of a couple of yards; then, returning, she will carefully follow her former course, and from it throw herself into the bush, where she calmly remains while the hounds hunt by her. Again, she will perhaps take water, and endeavour to foil the hounds in that way, often swimming a tolerably wide river in effecting her purpose, and generally, without perhaps intending it, being carried down the stream, while the hounds are sure to cross straight over, or as nearly so as possible. Such are a few of her artifices, and the hounds should be able, and also be permitted, to follow out all these various devices without assistance; the huntsman knowing that time will always bring her to bag, if they can only hold on with any scent at all.

Hunting is here the perfection of the sport, and no one should care for the gallop. Plenty of fencing may be had, if it is desired, or the hare-hunter may otherwise avoid it in most cases, by availing himself of gates and gaps. If, however, a huntsman is to be in his proper place, he must take all before him just as with foxhounds; though this is not necessary for the present day's sport, but rather for that of the future; for unless he sees all the working of the hounds, he cannot possibly distinguish the good from the bad, for the purpose of drafting or breeding. Hare-hounds seldom or never require a cheer; they are only too apt to overrun the scent without it; and, *as a pack*, they should be left to their own devices on all occasions but the following: first, when they come to a check, and cannot recover the scent; secondly, when they change hares; and thirdly, when they divide. Individual faults must of course be rated by the huntsman himself, or through him, by the whip.

THE CHECK is the great criterion of the hare-hound's powers, for while the good pack spreads and tries every yard of ground with the greatest care, persevering even beyond all apparent hope of success, the bad one soon gives up, and the hounds stand idly and listlessly about, expecting the hare to jump into their mouths. In hare-hunting the check generally arises either from the stain of sheep, or from the hare having practised some unusually clever double, or from her passing through a covert stained with the scent of rabbits or other hares. When the check is in the open, and from sheep, the hounds having tried their cast and failed, the huntsman should try round the whole field, taking the hedge carefully, and not allowing the hounds to follow at his horse's heels, but encouraging them to try all the way. If the scent cannot be hit off, and the hounds are good, the probability is that the hare has squatted in the middle of the field, which she often does; and if there is any covert, as in turnips for instance, every yard of it should be tried. During this second cast in the field, it often happens, if a good look-out is not kept, that the hare steals away without being seen, and in that case may be missed; though if the ground is carefully beaten she will be sure to be hit off by some of the hounds. If, nevertheless, no hound can scent her, the huntsman must extend his cast and try the hedge-rows next beyond, taking them in the order of their probability; and remembering that hares have always a tendency, *unless they have a decided home*, to return to the place where they were found. If, however, they have a home, he should try forward towards that home; and in that direction will generally succeed in recovering the scent. Most hares now-a-days are bred in covert, and return to it whenever disturbed; and these will generally be easily recovered by a cast in the direction of their home. Where the check arises from a double, the huntsman should have previously observed the nature of the doubles which have already been followed out, because these will afford some clue to the one now interfering with the sport; for this reason, that the same hare generally adopts the same *kind* of double throughout her run. Thus, if she has been returning on her line, and then taking a jump and on again, she will most probably repeat this over and over again, but under different circumstances—as, in or near a hedge, or in or near a brook, &c.; and the huntsman must expect these variations of the same artifice. Again, if she has been making a small ring and hunting the hounds once, she will be sure to try it again; and when most at fault, the hounds may just have passed over her in her secure retreat, where her scent is completely overpowered by that of the hounds.

IN CASE OF THE CHANGE OF HARE, the hounds should be stopped from the fresh hare, and the old scent recovered if possible. Nothing disturbs hare-hunting so much as the over-abundance of hares; and where they are thickly preserved it is quite out of the question to attempt this kind of sport. In many preserves a change would occur every five minutes, from a fresh hare jumping up before the hounds; and, therefore, the sport is totally unfitted for such countries. The hunted hare may almost always be known by her changed colour, and wet and dirty appearance, while the fresh one is clean and dry. Hares long hunted become very dark indeed, and almost of a dark slate colour.

WHEN HOUNDS DIVIDE, the huntsman, if both hares are fresh, may choose which he shall follow, and send his whip to stop the hounds from the other, and bring them up to him. If one is the hunted hare and the other a fresh one, no one will hesitate a moment in selecting the former, and stopping the hounds from the latter.

SECT. 7.—THE KILL.

THE KILL is generally, with harriers, the most painful part of the whole business; because, in the first place, the cries of the

hare are often piercing and piteous in the extreme, resembling those of a child in agony; and the hounds not being always allowed to have her, the whip is obliged to be used at a time when they least deserve it. It is true that some packs are so highly broken that they will not tear the skin of the hare even; but few have arrived at such a pitch of perfection without losing their hunting powers, and it is not, I think, to be attempted by the amateur-master. Ordinary hounds will occasionally gratify their desire for blood, and should be indulged with a hare once a-week at the least; indeed, many huntsmen like their hounds to have the last hare they kill on each day; but this is perhaps more than necessary. If the huntsman is a good horseman, and is well up with his hounds, he may generally pick the hare up without using the whip, as the hounds will not break her while he is so close; but if at a distance at the time, they will take advantage of his absence, and when once the blood is tasted, the whip must be used to stop them in time. No one but the huntsman should attempt to pick up the hare without the whip, as the hounds will only tear her from his hands. I confess that I should at all times be unwilling to interfere, as I would much rather see the hounds enjoy their dainty morsel, than see it reserved for the stomachs of less deserving bipeds, who have not earned even the currant jelly with which it is served up.

Sect. 8.—The Expenses of Harriers.

Compared with fox-hunting, the expenses of hare-hunting are very trifling, and they may be calculated as follows. It must be also recollected that the first outlay is much less.

	£	s.	£	s.
24 couple of hounds at 1*s.* 6*d.* per week per head	187	4		
Tax on ditto	28	16		
Medicines, &c.	4	0		
8 horses for 7 months, at 15*s.* per week	63	0		
Ditto ditto 5 months, at 7*s.*	21	0		
Tax on ditto	3	0		
Veterinary Surgeon	3	0		
Shoeing	7	10		
Saddling	12	0		
			109	10
Helper and whip, at 12*s.* per week each	62	0		
Tax on ditto	2	0		
			64	0
			£893	10

By great economy, and the dispensing with the whip, and using one horse only, with twenty couple of hounds, only about half this sum will suffice, especially with beagles.

CHAPTER VII.

OTTER-HUNTING.

Sect. 1.—The Otter, and its Haunts.

At page 11, the otter has been already partially described, but for hunting purposes his habits and peculiarities must be more carefully studied. He is an amphibious animal, living entirely upon fish, and seizing them by swimming under them, and thus taking them when they least expect it. His scent is very strong, so that hounds can hunt it for some hours even after the otter has passed. He is very tenacious of life, and a very hard biter, and will easily break the leg of a dog if he gets good hold. The otter does not confine himself to the water, but travels up the side of the river or brook for some distance, and leaves his foot-mark, called his *seal*, which may be easily recognised by the round ball or cup-like depression, and the marks of the webs, which are visible in the well-marked *seal*. The hounds can, therefore, generally hunt the otter up the banks of the brooks which he frequents; but the *seal* will afford the best signs for tracking him to his burrow, the entrance to which is like the water-rat's, always under the water, while a small and invisible hole supplies it with air. This burrow is called his *couch*; and his coming to the surface to breathe, which he is obliged to do every few minutes, is called his *vent*; his dung is also called his *sprainte*.

Sect. 2.—Otter-Hunting Implements.

Otter-spears are the chief requisites for

this sport, and are of great assistance to the otter-hunter, not only in killing the otter, but in enabling the sportsmen to leap over brooks, &c. They consist of two portions, the pole and the head. The pole is an ashen staff about twelve feet long, and strong in proportion to the strength of the party using it, but stout enough to bear his weight as a leaping pole. It should have an iron head, either fixed on or screwed into a socket fixed on the pole, but the permanent head answers all the purposes required, and is very much cheaper. It can also be made by the village blacksmith, and, if lost in the ardour of the chase, may be easily and cheaply replaced. If the head is made to screw on and off, it is usual to have a concealed barb, which comes out of a mortice, on the animal being transfixed, and thus holds him firmly fixed on the spear; but the slightly-barbed spear-head is quite sufficient to secure him firmly if fairly through him, and even the concealed barb will not do this unless it also pierces the body of the animal. Each sportsman should have a spear, and one or two spare ones should be carried by an attendant, in case of accident.

Sect. 3.—The Otter-Hounds.

The otter-hound has been also partially described as a descendant of the old southern hound crossed with the wire-haired Scotch terrier, and probably with the water-spaniel. He is the nearest approach of all to the southern hound, and has the length of ear, the full pendent lip, the dewlap, and throaty frill, which are so characteristic of that hound. His nose is very good, which is required to track the cold scent of the otter, and to follow him in the water, where the otter-hound often speaks to the scent in a wonderful manner. The pure foxhound has been successfully used by Mr. Grantley Berkeley for the otter, and will hunt him no doubt, as indeed he will hunt whatever he is entered to; but he is quite out of place here, being too fast on land, and not a sufficiently good swimmer in the water, nor capable of bearing that element for so long a period as the webbed otter-hound, whose greasy and woolly coat is impenetrable to wet. The deep-toned note of the otter-hound is another remnant of the old southerner, and he may be often seen to throw his tongue on the scent, without the power of moving his legs, so great is his pleasure and excitement. This, however, is too much of the old school, and should be got rid of in the perfect hound; and generally is, if the terrier and spaniel cross is sufficiently introduced. Both these dogs have no disposition to tie on the scent, but if too much of their blood is introduced, the hound will suffer in delicacy of nose, and will want perseverance in hunting. Otter-hounds are very savage animals, and will fight to the death, which is a common result of their quarrels. If not savage, they will scarcely cope with the otter without flinching, as his bites are exceedingly severe. The otter-hound may be obtained without much difficulty in Wales, Devonshire, the north of England, or Scotland, where packs of them are still kept up, and hunted wherever the otter is heard of. The great drawback to the sport is the scarcity of the otter in any given spot, so that to obtain sport a large district must be ransacked, and the hounds taken long distances, often to seductive promises of sport which are without real foundation. Nothing is more disheartening than to find, after travelling twenty or thirty miles to a river where otters are promised to be shown, that no *seal* is visible along the whole course of the banks. This mark is always to be met with, either fresh or stale, and the experienced otter-hunter knows that if it is entirely absent, he has been deceived by false representations. Otter-hounds are generally bred about twenty-four inches in height, the bitches being less, as usual with hounds. There is a smooth otter-hound, but the rough one is that generally in use.

Sect. 4.—The Men.

A huntsman is required for this sport, as well as for all others where a pack of hounds is engaged; for no pack can be properly managed except by a man who is always in the habit of taking them under his control. Unless, therefore, the master of the hounds undertakes the task himself, he had much better entrust the entire management to his man; because they will seldom work so savagely and courageously for any one else as they will do for their regular feeder and attendant. Otter-hounds are no use unless they try most perseveringly every inch of the bank; and they must stand the water, or at least continue to be wet for hours together. This, even in the summer-season, is a very cold business in the early mornings; and they soon begin to be slack, unless animated by a person to whom they are strongly attached. For this reason, therefore, I should prefer the regular huntsman to any other person. The only other paid

servant necessary for this sport is an attendant to carry a spare pole or two.

Sect. 5.—The Hunt.

When an otter has been heard of as having been seen in any neighbouring stream, or when his presence is suspected there from his "spraints" or "seal," or from the half-eaten remnants of the fish which he has caught, the hounds are started off very early on a summer's morning—that is, by dawn of day. No other season but the summer will suit this sport, because the cold water of early spring, winter, or autumn, will chill and cramp hounds and men to a dangerous degree. But while the warmth of summer is necessary to heat the water sufficiently, the rays of the mid-day sun are inimical to the scent; and, therefore, the hunting must be over by nine or ten o'clock. The meet should take place by five at the latest, which will give four or five hours' hunting. When the river is gained, the sportsmen should divide into two parties, one half taking each bank, and anxiously looking for the "seal" of the otter. The hounds at the same time should try every likely place; and when used to their work they do this most systematically; scenting and trying every inch of ground, and especially those which, by experience, are likely to contain the "couch." The roots of old trees are extremely likely, and those still pools which are just below a point in the river are the usual places where the otter chooses his "couch." At this hour in the morning the otter has not long retired from his nocturnal foray, and his trail may then generally be hunted even when his seal is not visible from the hardness of the ground, or its being covered with grass. There is no reason why otter-hunting should not be commenced as soon as the water is warm enough in some rivers where the meadows are grazed on each side; but where there is mowing-grass it must be postponed till that is cut, because the men and dogs do great injury to that valuable crop. After some search, perhaps a "challenge" is at last given, and one of the most tender-nosed hounds hits off the scent, with a note which informs his master, in the most unmistakable manner, that his game is at hand. Now every sportsman must take his place and perform his allotted task. Some one or two should pass upwards to the next ford, and carefully watch that point; another pair should take the same post at the ford below; while the remainder must watch every intervening yard for his "ventings." Meanwhile, the hunt proceeds, and the hounds are following the "challenger's" steps, and endeavouring to make out the whereabouts of their game. At last, the scent becomes stronger and stronger, and the couch is reached with a grand chorus of music from the whole pack. At this moment, from the ford above, a halloo is given, and he attempts to pass it, but is turned by the spears of the hunters posted there. The otter, knowing full well that his couch is not secure, generally leaves it before the hounds arrive there; and it is from that cause that he has tried the stream. He next tries the ford below, and here again he is turned; then, seeking the pools of the intermediate space, he is obliged to "vent," and is met with the spear of the hunter, or the fangs of the hound. If, now, the hunters appointed to watch the fords will only keep well their ground, his death is almost certain; but too often they are watching the progress of the sport above or below, and while doing this, neglect their own allotted office, and suffer the otherwise doomed animal to pass their watch. A lull ensues; no vent is seen, no tongue is heard, and disappointment is marked on every face. Every inch of water is tried, and still without success; for the otter has broken through the ford, and is perhaps a mile off at the time when the first pool is finally pronounced untenanted. The next step is to decide upon his having run up or down stream, which is always a lottery; for when hunted, he will be as likely to run up as down, and *vice versâ*. One or the other, however, must be tried; and the hounds will here soon pronounce whether the selection has been a good one or not. If, therefore, after trying in one direction for a quarter or half-a-mile, no challenge is heard, by all means try in the opposite direction. As soon as any certain indication is afforded of his having chosen either course, it will be desirable at once to halt, and to send a party of three or four of the best runners down to the next ford, at least half-a-mile below. Here they should diligently keep a look-out while the hounds hunt up or down to them; and if this pool is blank, then let them run on to the next. When once the otter is again pounded, he must be again hunted as at first, a party being placed to interrupt him above and below, and the remainder, with the hounds, hunting him in the pool. This is the only way to kill an otter with any certainty; for if he is regularly followed, he will assuredly tire out any pack of hounds, since he swims with ten times the

ease with which a dog can follow him, in deep or shallow water. But by pounding him at the fords, and confining him within given bounds, he tires himself in his efforts to swim from one to the other, and to avoid the spears and hounds; and yet is obliged to come up and "vent" for want of air. In doing this he is sure to fall a victim sooner or later; and as his "vents" become more and more frequent in his increasing exhaustion, he is at length impaled upon the spear of one of the hunters, and borne aloft in triumph. Sometimes a hound seizes him; but it takes a very bold and strong one to hold him, for his bite is exceedingly severe, and his strength in the water is very great; many dogs have been drowned in their efforts, and sometimes both otter and hound have been killed under water. The spear should be used with caution when hounds and otter are closely mixed in the *mêlée*, or a valuable hound may suffer from the careless thrust of some impetuous hunter. Upon these general principles all otters should be hunted; but in deep streams without fords it is quite impossible to hunt him with any chance of success. In these situations he takes off at once, and unless the hunters are in sufficient numbers to watch the stream for miles for his "vent," he will probably never be seen again. But if such were practicable, it would scarcely be hunting; for the hounds can take no part in the sport, and the spear must do all the work, if done at all.

THE ANNEXED DESCRIPTION OF A RUN with Mr. Oswald's hounds, in Ayrshire, will afford a good indication of the way in which this sport is now conducted:—"Exactly at half-past eight, at a signal from the master, John's cheery 'Ho, wind him, ho!' rang through the clear morning air, and opening in full chorus, the pack dashed for the river. No sooner, however, had they rushed to the water, than every hound settled to his work, and not a stone or root escaped their notice. I may here mention for the information of such of your readers as may not be acquainted with the locality, that the river Ayr is broad, though not deep, with rocky and rugged banks, in many places wooded to the water's edge. The coverts are well stocked with game and roe-deer; and it is, therefore, necessary to have hounds steady and free from riot; and, from the nature of the banks and the number of roots and natural 'hovers,' it is of the utmost importance that hounds should work slowly and carefully, even with a good scent. We had drawn on for rather more than a mile without a whimper, when Rattler, who had swum to a large stone in the middle of the stream, opened, and a 'true bill' was speedily returned by Old Comely, Nailer, and Dazzler, whilst the rest of the pack struggled to gain the rock, where Old Comely had sat down to discourse sweet music. From this point we had a cold drag for about two miles; but on reaching a celebrated stream, where the largest trout are to be found, 'a change came o'er the spirit of our dream.' Lambton, always the last hound to own a scent, began to cast anxiously from side to side—now trying the water, and now springing from rock to rock, his stern erect and his hackles rising. At last, on a small tuft of grass, he hit it off; his clear loud note rang through the cliffs, and brought every hound to his side; for well they know that when *he* speaks the chase has begun in earnest. In a moment the rocks and woods rang with the cry of the whole pack, as they carefully followed the zigzag track of the otter, who, contrary to the usual custom, it was evident had fished up stream. I never remember to have seen anything more beautiful. You might, in reality, have covered the hounds with a small sheet; the very puppies entered this season took it up. Forward was still the cry, till he reached the holm below Barskimming House, where there is a large and deep pool; at the lower end is a shallow ford, on the right-hand side a high rocky face, and on the left a steep earth embankment, on which stands a row of old plane trees. On arriving at this pool the hounds were at first a little at fault; it was evident the 'fishmonger' had entered the water by the ford at the bottom. John pushed through the water; with a single twang on his horn every hound was with him; and, making for the top of the pool, he cheered them on with a 'Ho, cast for him, good hounds.' We were not kept long in suspense: Old Rally, who devotes her attention almost entirely to roots, opened loudly at the foot of a large plane tree, and was instantly joined by Ringwood; with a dash the rest of the hounds made for the spot, and we were left in little doubt that the varmint was at home. Pincher and Charlie were now brought into requisition, and disappeared through the open network of roots laid bare by the late heavy floods; they had not been in above a minute, when a large otter bolted almost through the middle of the pack, and made one long dive, rising in the centre of the pool to see where his pursuers were; but finding them in his wake, he disappeared. It would be tedious

to recount to you (though to us, at the time, highly exciting) the various dodges he tried to elude his pursuers; now diving under one root, again lying resting in the still pool, with nothing but his nose above water, and then endeavouring to run the lower ford (this we had manned, leaving him free access to the upper waters). For full two hours he afforded us incessant work; and we were beginning to doubt if the hounds could stand the cold any longer, when he suddenly disappeared, 'leaving not a trace behind.' John, however, had been too long at his work to be done in that way, and, leaving us to watch the pool, he made a cast forward about 500 yards, when the whole pack opened with a burst of music that sent us after them in double-quick time. When we reached the spot, we found all hands busy at a hole, where a severe fight was going on; the voices of Pincher and Charlie were both clearly distinguishable above the deep ring of the hounds as they bayed at the mouth of the hover, from which they were tearing huge mouthfuls of earth and roots, and in the centre of them stood John, up to his middle in water, now swearing at a hound to 'keep quiet,' and now digging with his hands like the best of them. What took place 'in the hole' we could not exactly see, but the earth seemed to give way before the united efforts of John and his hounds, and in a minute or two he appeared with a large otter grasped tightly by the fore-legs, with Pincher, Billy, and Charlie hanging to his mouth like so many leeches. He had just time to change his grip to the tail, when the pack were upon him. But John is not the man to let go; he held on till by the united efforts of three men, he and his hounds were pulled on to the green grass, and then, with a 'Hi, worry-worry,' that made the echoes ring, he threw him to them. I never remember to have seen an otter fight so long; he drew blood from almost every hound in the pack, and nearly cut the terriers to pieces. He was a large dog otter, and weighed exactly 22¼lb. We found the drag about half-past nine or ten o'clock, and killed him at three o'clock in the afternoon."

Sect. 6.—Dress for Otter-Hunting.

It may readily be supposed that, if possible, waterproofs would be used in this sport, but they are inadmissible for many reasons. First, they are too cumbersome for the active exertions which must be made. This is not like fly-fishing, where the fisherman stands for some time in one spot, but the legs are constantly called into play, and sometimes at a very rapid rate; and, consequently, the height and bulk of long waterproof boots would be beyond measure annoying. Besides this, it must be remembered that, unlike snipe-shooting, the season is a warm one, and if the water was kept from penetrating from the outside, the interior would be damp, and even wet, from the sweat produced by exertion and excitement. From all these causes, therefore, india-rubber is tabooed. Flannel is the article in request, and should be worn all over the body. No linen should touch the skin, but fine Jerseys should be worn over the upper half of the body, covered by open but soft clothing in the shape of a Tweed shooting-coat, or some similar material; whilst plain white flannel trousers are the best investments for the lower half of the body. Strong shooting-shoes, well nailed, are the best covering for the feet, and good woollen socks should be worn under them. With this clothing, although the wet easily penetrates, it is as easily dried, and no chill takes place from the absence of confinement or of wet linen next the skin. It is only necessary to keep moving till the whole dress is dry, and no ill effects will be likely to follow.

Sect. 7.—Expenses.

The cost of otter-hounds may easily be estimated at 8*s.* per couple per week for the hounds, and 14*s.* to 18*s.* per week for the huntsman; beyond this no other expense need be incurred.

PART I.

THE PURSUIT OF WILD ANIMALS FOR SPORT.

BOOK III.—COURSING.

CHAPTER I.

PRIVATE COURSING.

SECT. 1.—THE HARE.

THE hare has already been described at page 87, under the head of Shooting; and again at page 118, in the section alluding to "The Game to be Hunted." For coursing purposes, however, it may be still further remarked, that several varieties exist which test the properties of the greyhound very differently, but which varieties are only dependent upon the situation and soil of the localities upon which they are bred. Thus, there are in England down-hares, enclosure-hares, covert-hares, and homeless-hares; and besides these there are, in Ireland and Scotland, the Irish hare and the Scotch mountain-hare. The down-hare is a very fast, yet rather small variety, exceedingly stout and bold, sometimes going away without a turn from a brace of good greyhounds. Some of these little hares have a wonderful knack of throwing out the greyhounds, without appearing to be very fast, but just contriving to elude their pursuer by a hair's breadth. They do not stretch far away between their turns, but make them as soon as they are pressed, and, with one eye forward and the other behind, they always manage to escape any but a more clever killer than usual. These hares are found upon all the open and hilly grounds of Wiltshire, Berkshire, Yorkshire, and part of Lincolnshire, and afford better sport in coursing than other hares, because they are so stout, and yet not often fast enough to get clear away without a turn. It is no uncommon thing to see a course of three or four miles with them in which there are more than a hundred turns; but, generally speaking, if the hare lives long enough to elude thirty or forty efforts of the dogs, she is able to get away to her home. It is seldom now-a-days that hares are found on the downs, except in the vicinity of coverts in which they are bred; and I know of no locality, where they are met with in any numbers, at such a distance from any home as to be considered down-bred. Formerly, however, this was the case in many neighbourhoods; but the poachers take good care that it shall not be so now. Wherever therefore, on the downs, hares are not preserved they are extirpated; and if preserved, they are provided with a home in which they may breed, and where they may be more easily watched and protected. For coursing purposes also this plan answers very well, as the hares can at any time be driven to make their forms in the open, either by fixing a net round the covert when the hares are on the feed—which is the best plan—or by driving them out at sunrise with dogs, when they do not return that day, but sit out at once. The enclosure-hare, a variety found in the thickly-enclosed farms of the midland counties, is generally a large and fast hare, fond of threading the hedgerows, and too often spoiling the course by so doing. These hares are also generally bred in woods or plantations, but sometimes they breed in the open fields or thick hedges. In any case, as soon as the corn is cut they retire to the nearest covert, and remain there, except for feeding, until the leaves drop off in November. Whether the dislike to these places of retreat at this time is caused by the noise of the falling leaf, or from any other reason, I do not know, but the fact is clear, that as the leaf falls they begin to sit in the open fields, and not till then in any numbers. Much, I fancy, depends upon the coverts being disturbed for pheasant-shooting at this time; and probably this has as much to do with the change of seat as the fall of the leaf, or perhaps more; but still it is undoubted that till that time it is of no use looking for hares out of covert when such a retreat is near. These hares will often stand a long time before greyhounds, but mainly from their trying their fencing powers to so

great an extent, because the hare does little at the fence, whilst the greyhound has to make an extraordinary effort either to fly over it or through it. Nevertheless, I have often seen enclosure-hares run as stout and as fast as any down or marsh-hare, independently of the fences, and in large enclosures of fifty or one hundred acres each. Nothing is perhaps more beautiful than the fine fencing of a greyhound, but it can so seldom be seen, that the beauty is wasted for want of witnesses. Wherever the fences are strong enough to try the powers of the greyhound, they are too strong for an ordinary horse in cool blood, nor do the farmers generally approve of riding over such land. The spectator on foot therefore must content himself with a view of the course up to and over the first fence, and imagine the remainder, unless he happens to be posted on a high hill which commands the view of the whole course in the distance. The homeless-hare is one which is bred on highly-preserved land at a distance from any covert, and is now chiefly found on the reclaimed marshes of Essex, Bedfordshire, Lancashire, and Lincolnshire. These hares, when good, are wonderfully strong and fast, and test the merits of greyhounds to their fullest extent; but there is this objection to these hares, that they never go straight away home, but keep running circles, large or small according to their boldness, and thus always favouring one dog more than the other. I have seen these hares make ten or a dozen circles round a ring of a few yards' diameter only, and then break away, and beat their antagonists hollow, which is a feat never tried by hares that own some place of safety as a home. They seldom make the strong short wrenches of the down-hare, but turn more or less at a right angle, and are careless of being brought round. From the different style of running of these various hares, a dog used to one sort will often find some difficulty at first in running another, and therefore it is well to accustom him to the kind of hare he is to course before his merits are fairly put to the test. The Irish hare is, I believe, a very small, fast, and quick hare, but never having seen her performances, I cannot speak from personal observation of them.

Sect. 2.—The Greyhound.

For private coursing, a different dog is required from that which will suit the purpose of the public courser; the latter *must* have that dog which will win him the stake for which he competes, even if his dog only lasts for a few months—as indeed is generally the case; but the private courser will not like this constant necessity for change, and requires his favourites to continue fit for use at least three or four seasons. Hence, he sacrifices some essentials to this lasting condition; and is content if he can produce a tolerably fast, stout, and *honest* dog, that will also last honest for three or four seasons. In enclosed districts he must also fence well; and, in addition, he must be hardy in constitution to stand the exposure to weather without clothing, to which he is generally open. All these requisites may easily be obtained, and many private kennels have them in great perfection, and produce greyhounds which, in private trials with one another, appear to do as much as any public greyhounds; but when actually put to the test are found somewhat too slow, and not *quite* quick enough at their turns. But to all private coursers I would offer this advice—viz., to avoid most carefully the blood which is found to be successful in public, especially that of the most winning puppies. These greyhounds will not do for the private courser, because he will find that after thirty or forty courses they begin to run cunning or slack, and are then useless to him; whilst his own will run some hundreds of hares before they show the same amount of lurching propensity. The drawback is a serious one to the public courser; but as he breeds for a specific purpose, and can only succeed by selecting that blood which is most successful, he must put up with the inconveniences, and do the best he can with them. Unless, therefore, the private courser will make up his mind to breed a fresh team every year, he must stick to private blood, or to some of the most true and honest strains which appear in public. The reason of all this is very clear: if the intellect of the dog is sufficiently developed to make him take to his business very quickly and well, he will also be quick enough to learn more than that, and he soon finds out that if he husbands his resources he will obtain his end much better than if he exerted himself too much at first. Hence he is of early maturity (mentally), but early decay. If the private courser is a pot-hunter, these dogs are often the best killers; but as I am assuming that he pursues coursing as an amusement, for the purpose of competing with his neighbours in a friendly way, and not solely to kill hares, I do not for a moment look at his wishes from that point of view. The man who habitually takes a brace of cunning greyhounds out solely to

kill hares is no sportsman, though any one may sometimes do so when he wants a hare; and, as I write for sportsmen, I will not insult them by supposing such a thing. The greyhound for private coursing may be obtained from any of the districts where this amusement is carried on; but some of the best breeds are very difficult to get at. Indeed, I believe some private greyhound owners would not allow their dogs to be used on any consideration whatever. This may appear very absurd, but I do not look upon it in that light; because though they may be easily beaten by many greyhounds, they would not so easily succumb if the match was to be run on three occasions—that is, once during three successive seasons. Having decided upon the blood which will suit him, let the intended greyhound owner get a brace of whelps if he can, or a brood-bitch, and put her to a dog of a similar strain of blood. For private coursing, there can be no doubt that the best mode of rearing those whelps is to send them out to walk until they are about ten or twelve months old, when they should be brought home and regularly exercised for the rest of their days till done with. If the brood-bitch is obtained, and is bred from, she may be treated in the same way as any other brood-bitch, which will be fully described under the article Dog. No one in private coursing will take all the trouble, and go to the expense, requisite to insure success in the public coursing-field, and therefore all that need be done is to treat her in the same way as pointers, setters, &c., which will there be found at full length. For private coursing I should strongly advise that the greyhound should not be entered until he is at least eighteen months old. These greyhounds do not come to maturity nearly so soon as the public kinds, and they should not, consequently, be entered so soon. Besides, there are not the same reasons for the early entering, since it matters little whether these puppies are shown a hare in November or December, and, consequently, they may just as well wait till their frames are knit before they are tested so severely as the hare tries their bones and sinews. This postponement is particularly needful, because the private greyhound is seldom quite fit to run when slipped at the hare, and is also often slipped several times in the day; so that in every way he is more tried than the public one, and should be older before he is brought out. Many good private coursers take great pains to insure good exercise and general management for their dogs, and they almost always beat all their neighbours by so doing; but few go to the length of training them, and are content to allow them to gallop themselves into wind, if they will. It is wonderful what condition will sometimes be obtained in this way; but, generally speaking, after a short time the dog becomes lazy, and refuses to exercise himself sufficiently to remove his superfluous fat, or to get himself in wind; if, therefore, it is desired that he shall be able to course his hares without distress, he must be trained in some way or other, and horse-exercise is the easiest mode of obtaining this. Most greyhound owners are also horse-keepers, and if they send out their horses to exercise, they may just as well let their greyhounds accompany them. This, if done daily, will produce a tolerable degree of condition, but the greyhound will often be terribly distressed in a long course if only treated in this way. Unless, therefore, the courser is in the habit of running his dogs once or twice a week, he should certainly give them a few slips to improve their wind. To do this all that is necessary is to take them up in couples, then send on their feeder half a mile or so, up a moderately-steep hill, if possible, and have them held by a stranger till he whistles to them, when they should be let go. This improves the wind if repeated once or twice, and by its adoption the greyhound may be got into pretty good condition. An occasional dose of physic should also be given, consisting of a spoonful of castor-oil, or an ounce of Epsom salts dissolved in cold water. Attention should of course be paid to health as in ordinary dogs. For private purposes clothing is not requisite, nor do I think it desirable, except when standing about the fields in coursing in very cold weather. Here a cloth is indispensable, and the dog without it is chilled, and rendered unfit for exertion on that day, and generally for some time afterwards.

The Feeding of Greyhounds for private running should be principally on Indian-corn meal and oatmeal, either plain boiled or made into bread; if the latter, the flour of the Indian-corn must be finely ground; but if only boiled, hominy answers perhaps better than meal. It requires several hours to boil it, and it should be done at least two hours longer than the oatmeal. It is, however, a very good and cheap meal for all dogs, and answers particularly well for greyhounds. This should be the staple, with milk or buttermilk. On two or three days in the week they ought to have from ½lb. to ¾lb. of meat well boiled; and on the alternate days, if they have not got the

buttermilk, they should have a few greaves. Once a week they ought to have a few greens, or potatoes, or carrots, boiled up with their meal. Greyhounds kept in this way are not quite so hard and fit to run as if fed on stronger food; but they keep in better health longer together, and will generally be fit for what the private courser wants, viz., a course or two whenever the opportunity offers. With these few remarks I shall pass on to other matters, reminding the private courser, that if he wishes to go to the full length of which the subject is capable, he has only to study the chapters on "Public Coursing," and then he will obtain the information. My object here is to place before the private courser the usual mode in which private greyhounds are managed, and the amount of trouble to which he must go in order to be on a level with his neighbours and rivals.

Sect. 3.—The Ground.

It is unnecessary for me to remark, that greyhounds are of no use unless there is ground to try them upon; if, therefore, the proprietor has none of his own fit for the purpose, he must obtain leavè from those who have. In most coursing districts there are certain estates which are thrown open on fixed days to the public, for the benefit of the keepers, or of some landlord of an inn, generally an old servant of the proprietor of the land. But, supposing the land belongs to the courser, he will find that in all cases hares must be driven out before they will sit, and he will shoot the coverts the day before he intends to course, or have them driven expresaly for the purpose. If he has the farm in his own occupation, he will of course choose such times when the fallows have been quiet for some little time—that is to say, if these are the fields which he intends to course over. It is seldom that private coursers have much choice of ground, and they content themselves with what they can get.

Sect. 4.—The Beaters.

Wherever it is determined to course, beaters are requisite, unless five or six gentlemen on horseback are present. But whatever is the mode adopted, a line should be formed, placing one beater at every thirty yards, and proceeding abreast of one another from one extremity of the field to another. Much art and experience are necessary to insure the best management of the ground, for often a hare may be sent the right way by careful beating which would otherwise have been at once lost to sight. When a field lies near a covert, it should be regularly beaten *from* the covert, and not *towards* it; and after taking a breadth of land away from the covert, the beaters should take what is called "a dead beat" back—that is to say, they should return to the covert over the beaten ground, and should not attempt to beat the ground *towards* the covert. By these means hares are often driven the right way; but the worst of the plan is, that they generally wheel short round after the first turn, and come back to the same covert, which they have been already prevented reaching by the "dead beat." When a beat is taken along a hedge-side, the beater nearest the hedge should be at least ten or fifteen yards in advance, in order to prevent the hare running at once to it and escaping altogether. If a hedge is being beaten, the horsemen should all range themselves on the side opposite to that where the greyhounds are; and the foot beaters should be a little in advance of the dogs. The slipper and dogs should be the only party on the side which the hare is wished to face. Sometimes a small field of turnips or potatoes, &c., borders on a good large open field; in such a case it answers best for the slipper to remain in the latter, quietly concealing himself as much as possible at a short distance from the meuse, and waiting till the hare is driven through it. If now the beaters form a half-circle, they may drive the hare or hares to the greyhounds; and will thus obtain what would otherwise be impossible, a good course. In driving small plantations, &c., the slipper should remain just outside, if possible, concealed from the hare's view as she comes out by a tree. Hares driven out of covert, however, seldom run straight or well; and the plan should not be followed if it is possible to avoid it. In the early part of the season it is the only mode of getting a run; but for private coursing there is no great object in beginning so very early.

Sect. 5.—The Slipper.

A very important functionary in private as well as public coursing. He should be taught to run well with his dogs, and not to stop running till after he has slipped them. Practice, however, is necessary for perfection, and few obtain it with that amount which private coursing usually affords. The great object is to slip without a jerk, and not to deliver the dogs unless they are both sighted, and equally strong at the time. He should walk about five or six yards ahead of the beaters, and should

never be behind them. If, therefore, he is not able to keep up with the horsemen, they must slacken their pace; for no plan is so bad as to distress the slipper, or put up hares so wild as to be beyond his reach. If the slipper is distressed, he cannot run forward, and the consequence is, that the dogs are badly slipped; and if the hares get up too wild he has not time to get his dogs sighted and straight on their hare before she is out of their reach. In almost all cases the slipper should have some one to give him his orders to slip, and he should, on receiving the word "go," slip his dogs as quickly as possible.

There is a great variety in the make of slips, every one fancying that particular form which suits his own ideas of perfection. The essential feature is the delivery of both dogs at the same moment, with smoothness, and with as little jerk as possible. No slips answer better than the old crane-billed make; but they take a long time to put together. An improvement is made upon this principle in Scotland, called the Caledonian slips, and they were used with good effect by Mr. White. The Shrewsbury slips are, however, those which are most commonly used in public coursing.

Sect. 6.—The Judge.

All coursing, whether public or private, is in the nature of a competition, and that cannot possibly be settled without a judge; one should, therefore, be appointed for the day, and this precaution will often save a disagreeable squabble as to the various merits of dogs. It is very seldom that the two owners see the course with the same eyes, and the aid of a third and impartial party is required to set them right upon disputed points. Even, therefore, if no person perfectly *au fait* can be found, it is better to nominate a judge of some kind whose decision shall be final, than to go on quarrelling about the merits of each other's dogs to the end of time.

Sect. 7.—The Course.

No reason can be assigned why a series of courses in private may not be as good and as interesting as a similar number in public. If the ground is as good, and the hares equally so, and if the greyhounds are well matched, and of good quality, no reasonable man can contend that the course may not be identical with those exhibited in public; nevertheless, it is an admitted fact that, generally speaking, it is not so; and that private coursing is very inferior to what we sometimes see in public. It is true that the best ground is generally reserved for public coursing, and that when hares are not preserved for the purpose they are seldom thick enough for the amusement of the spectators; but independently of these considerations, there is seldom sufficiently good management to insure good sport. I have seen, on some occasions, private coursing conducted with as much good order as is often observed at any public meeting; but these cases are exceptional, and must not be taken as the rule. When the hare gets up, either after a "Soho!" or when getting up wild, the dogs should be held till she is from 50 to 80 yards off, when they should be slipped as directed above. Sometimes when a hedge is very close, and the hare is making straight for it, it is better to slip at 30 or 40 yards than to lose all chance of a course; but it should seldom be allowed under 50 or 60 yards. After the course the dogs should be taken up, and another brace put in the slips. It is very common in private coursing to run the same dog four or five courses in the day, if they are not very severe; but more than these should seldom be allowed, as they only serve to exhaust the dog, and to make him run cunning much sooner than he otherwise would do. It is a good plan to take a little boiled mutton into the field, and give the dog about an ounce after each course, if he is intended to run again. If he is much exhausted, he will of course not be allowed again to go into slips.

Sect. 8.—Rules for Private Coursing.

It is usual to judge the course in private exactly under the same rules as in public; and I shall therefore here refer to the rules which will be found at length under "Public Coursing." It is not a little remarkable that all that I have described as the usual mode of conducting this sport in the present day was practised in the time of Arrian, A.D. 150, who wrote a long treatise on coursing, containing all that is now known on the subject, and describing the course with as much exactitude as could now be done by the most ardent votary of private coursing.

CHAPTER II.

PUBLIC COURSING.

Sect. 1.—Its Recent Date and Importance.

In the chapter devoted to private coursing, I made the remark that the sport known by that name was fully known in the time of Arrian, and described by him A.D. 150. Public coursing, however, only dates back to the time of Charles I., when several matches are recorded to have been publicly decided; but since that time the number and frequency of public coursing meetings have so much increased, that there are now more than 600 stakes annually run for in the three kingdoms. The average number of dogs running in each of these stakes would probably be about twelve; the entrance-money may be estimated at about four guineas, which will give 600 multiplied by 48, equal to 28,800 guineas. This appears a very high sum to be invested every year in so useless a sport; but, when it is remembered that it is spread over a very large extent of country, among, perhaps, 4000 coursers, it will only average an outlay for each individual of seven guineas in stakes alone. This does not, then, seem too large a sum for the year's amusement, and the improvement of the health of so many people; and no one would, I think, contend that they are dearly bought at that price, even if to it be added the outlay on a brace or two of greyhounds for keep and training. It must be borne in mind, that this sport is essentially confined and proper to the middle classes of society; for though some noblemen and gentlemen still condescend to partake of its allurements, they are the exceptions to the rule, and the great bulk of its supporters are those gentlemen in middle life who are neither noblemen nor even men of large landed property. It is therefore fortunate for them that so many liberal land-proprietors throw open their preserves once or twice a year to the use of their neighbours, for without such an assistance the sport could not possibly go on. But, with this kind and considerate help, the man of moderate means can enjoy the amusement with even greater zest than the proprietors of those large kennels, which formerly used to sweep everything before them. At a very recent date, and long within my memory, Lord Rivers, Mr. Goodlake, Lord Stradbroke, and Lord Eglinton were so strong, that no ordinary individual had courage to pit himself against them; and though some few members of the various clubs continued to contend against them year after year, it was a hopeless and vain struggle, and was persisted in more from a desire to be seen grimly struggling to the last than with any hope of victory. But all this is now changed, and the tenant-farmer or the professional man has as good a chance, or even a better one, than the most wealthy and large-acred nobleman. "If a thing is to be well done, it should be done by one's self," is a very common adage, and well exemplified in the case of the courser; for he is the most successful who, understanding the whole *arcana* of the business, sees himself that they are practically carried out. This few of those in high places will do, and then, in consequence, they have "a pull" against them. Again, they are tempted into keeping great numbers of dogs, which it will hereafter be shown is a great cause of failure; so that altogether it is no wonder if they are sometimes less successful than the money and talent they bestow on the subject ought to insure. The sport, however, from many of these causes combined, has become a popular one with the middle classes; and they ought to be grateful for the facilities which are afforded them by such owners of preserves as Lord Craven, Lord Londesborough, Sir Edmund Antrobus, and Mr. Whitbread, whose examples are followed in numberless instances on a smaller scale; but the above-mentioned noblemen and gentlemen, not being themselves coursers, are doubly entitled to the thanks of those who are.

Sect. 2.—Difference from Private Coursing.

Between these two sports there are important points of distinction, which are not so evident to the cursory glance of the unlearned as might be imagined by those who are fully initiated into the mysteries of coursing. In private coursing I have already observed that everything *may* be conducted on the same principles as in the public field; but this is the exception, and the rule is, that most men in private go out for the sake of killing hares, and not for the purpose of competing with their neighbours and friends. Those who do this are only

intent upon the death of the hare, and accomplish their object often by mobbing her, or by starting her again with spaniels from her retreat in the covert which she has gained. This I have known done by old coursers to such an extent as to course the same hare three or four times in one day, driving her out of her covert, and after losing her, putting spaniels on her scent, and again and again coursing her, till at length she succumbs. This of course would only be practicable in enclosed districts where there is a series of small coverts, and where hares easily beat greyhounds, unassisted by other dogs; but I confess that the sport, if worthy of that name at all, has no charms for me, and that I should despise myself for partaking in such a bastard kind of hunting, for it certainly cannot be called coursing. In any case private coursing is too often converted into a "pot-hunting" kind of business, in which the hare is the great object of the pursuit. On the other hand, in public coursing the hare is only a means of trying the powers of the dogs, which are pitted against one another, and her capture or escape is not immediately connected with the success or failure of the sport. It often happens that the best course of the day is a bloodless one, and no good courser measures its beauty, or the goodness of the greyhounds engaged, by the same criterion which the private "pot-hunter" employs. The public courser's whole study is to excel and outrun all his competitors; and for this purpose only does he breed and keep his greyhounds. Many good coursers never see their dogs run in private, and will never attempt to form an opinion of their respective merits, for fear of condemning a good greyhound on insufficient grounds. Certainly this is, in my opinion, a weakness on their parts, though a very amiable one; for I can scarcely understand any one being afraid to judge amongst his own dogs, though it is very clear that few are capable of estimating their performance as compared with those of strange, and, perhaps, superior kennels. This, however, does not alter the bearings of public towards private coursing, but it makes very clear the distinction between the two varieties. The one is the pursuit of the hare for sport; the other is a trial between greyhounds, using the hare only as a means of developing their powers, but quite ready to dispense with her if the trial could be efficiently made in any other way. Thus the one is a sport which undoubtedly comes within the present department of British Rural Sports, viz., the pursuit of wild animals for sport, whilst the other would perhaps more properly be considered as a branch of racing. But with this double difficulty before me, I preferred adhering to the old definition, and have consequently retained both descriptions of coursing under this head.

Sect. 3.—The Public Greyhound.

Since there is but one object in keeping the greyhound for public competition, and that object is only attained by success, it is quite clear that by success must the greyhound be tested, and for success must he be bred. I do not mean to say that you can measure his value by his money-winnings, because luck is a most important element in public coursing; but I assert that by his success, or *his fitness to obtain it*, must the greyhound be estimated. Many greyhounds have had a series of misfortunes, and yet have been first-rate dogs, and have been considered such, though never victorious over good and large fields. There are so many elements necessary to this achievement, that it is no wonder that many fail without deserving their failure. A dog may get one or two undecided courses from hares dividing, or from a variety of causes, and this may put out his chance of a stake; or he may, in his excess of courage, lame himself, and yet be the more admired in his failure than the steadier runner that has won the stake. But in spite of all these exceptions to the rule, it is nevertheless a true one, that success in the long run is the best guide to the selection of the best dog. This, therefore, is my test; and upon that test as a definition I shall proceed to consider the points and merits of the greyhound for public running. In any other point of view there is an endless scope for controversy. One party may say, "Oh! we do not want speed, we want bottom;" another may care less for bottom than for speed; whilst a third may disregard both, and stick to working properties as the test of the true greyhound. All this is a mere matter of taste, except as tested by success in public contests; but with that criterion in view, all these private opinions sink into the shade, and the result is that we all direct our efforts to produce what will insure its being grasped. It must be remembered that this success is obtained under certain rules, and that the greyhound is not pronounced the winner according to the particular fancy of any man, or set of men, but he is tested in such a way as (theoretically) shall decide upon his doing certain

things in accordance with known and recognised rules; so that, after all, we have only to consider what greyhound is best calculated to effect those purposes; and this is the sum and substance of the present section. It will hereafter appear that, according to those rules, the properties of the greyhound are estimated in the following proportions:—first, speed; secondly, working and killing powers; thirdly, stoutness or bottom; and fourthly, courage.

SPEED is a quality which is very easily understood in the abstract; but it should be examined more closely, when considered in reference to the greyhound. It may be divided into speed from the slips, and speed from the turns. SPEED FROM THE SLIPS is variously displayed, according to the quickness of the particular greyhound. Thus, he may be slow immediately from the slips, yet soon increasing in pace, and going on to a perfect torrent in velocity. With some judges this is a very great point, since it scores four to begin with; for they count this feat as a "go-by," though on what principle I cannot imagine. A dog which goes quickly out of slips, and reaches the hare first by thirty lengths, is only allowed two points, while another which suffers his antagonist to get the start for a few yards, and then goes by him, and only reaches the hare by a couple of lengths, is allowed to score four. Can this be justified on any grounds? I think not. Speed is the only foundation for the decision in both cases; yet the one which is thirty lengths faster than his antagonist counts only half as good as the one which is two lengths faster. I much admire that kind of speed which goes on smoothly, increasing in pace from the slip to the turn; but I think that the dog who thus runs is sufficiently rewarded by his after-power of working; for I am satisfied that the very courageous dog which starts from slips as if ready to burst himself, really does injure his chance materially by so doing, independently of his being robbed of the due reward for his superior pace. But so long as speed is the only criterion for judging of the first turn, I cannot consent to this mode of estimating it. If it were possible to do so, I would always breed so as to insure the increasing speed, for the reasons I have given above; but I would not punish the contrary, and make the most praiseworthy effort of the greyhound to reach his hare a double means of insuring his defeat. Hundreds of dogs burst themselves by their excess of courage, and must fairly suffer the penalty; but they should not certainly be deprived of that which they have earned; and if more than one point is ever to be allowed for speed to the hare, over and above the turn, it should be given to that very superior speed which either insures a long lead of twenty or thirty lengths, or a lead on outside ground; but no trumpery lead of one or two lengths, wherever gained, ought to give more than the one point for speed in addition to the turn; in all, two points for the cote, or first turn. It is this outgoing speed which characterizes the public greyhound; he is the thorough-bred racer among dogs, and the points which give the faculty are easily recognised by the eye, though all dogs which have them are not necessarily fast. These points are—first, length from the hip-joint to the hock, *when extended;* and secondly, powerful and flexible shoulders. SPEED FROM THE TURNS is a somewhat different quality from the above; but it is generally met with in the greyhound which starts well from the slips, if he is clever, and of good bottom. A dog may be able to get well away at first, yet so soft that he tires himself in his first effort, or so slack that his courage is already exhausted. He therefore seldom does much after the first turn, but subsides into a second place, and is easily beaten by a much slower animal. He may get a turn now and then in the course; but if the hare is a good one he generally succumbs without a fight. On the other hand, the stout and yet fast dog, which is a rare combination, not only gets first from the slips, but also, after turning his hare, he is first away from his turn, and is at her again; that is to say, if he can stop himself so as to start "even with his fellow." This point shows the perfect greyhound, and it is one which catches the eye of a good public judge sooner than any other. It should, therefore, as the cause of success, be carefully prized, and the blood which produces it should be diligently sought for. Next to these comes the speed which produces the "go-by," which is not necessarily connected with working power, but may be possessed without that attribute. In this kind of speed there may be no control over the exertions at all; but after the first turn there may be little or no power of stopping, and in the interval the other dog may get on the line of the hare and obtain a considerable lead. Being, however, a slow dog, the fast but bad worker, if the hare also is a fast one, is enabled to go by him and score two points, even if he cannot turn the hare from his deficiency of working power, or from its being too fast for him. Of these three

kinds of speed, that one is the most valuable which leads off and maintains the lead, and which also is accompanied with stoutness sufficient to enable the dog to get away from the subsequent turns. In shape this is characterized, in addition to the two points already specified, by the possession of a muscular back, without which it is seldom attained; but, over and above all, there must be a good heart.

Good Working and Killing Powers are generally co-existent, though not always so; for some of the best workers are, and always continue, bad killers. But in most cases the power which gives the capability of turning the hare, *and of keeping her line afterwards*, also gives the capacity to kill. Sometimes, however, there is not the will; and this is very common in the puppy, who often does not attain the tendency to kill until the end of the first season. Of this late-killing *tendency* the celebrated Mocking-bird was an extraordinary example; whilst Figaro, her sire, never had the *power*, and ran a great number of hares before he ever tasted their blood. His progeny, however, have been generally good killers rather than otherwise. Many other examples might be given, but it will suffice for me to assert, as an undoubted maxim, that both these powers are of the highest importance—first, as scoring quickly, and thereby gaining the course; and secondly, as quickly ending it, and thereby enabling the winner to meet his next antagonist on favourable terms. The working of the greyhound is very different in different breeds, and even in varieties of the same breed. There is sometimes the bold, vigorous, and determined rush at the hare with the desire to kill; this produces a turn, and generally a full turn; and it is varied according as the rush is made straight at the hind-leg, or at the side, or at the shoulder. If the rush is made at the hind-leg, well on the line of the hare, and with a good command at the turn, it is very beautiful; and when united with good bottom and speed, is, in my opinion, the perfection of running for most countries. In the last case the line of the hare is left, more or less, and she is attacked on a line slightly varying from hers, but still parallel with it. This is called "not running the line of the hare," and is considered a fault for many reasons. Next, there is the steady line-running worker, who goes fast to his hare—running to her scut, and yet not rushing at her for fear of bringing her round, and thus losing ground at the turn. If this is executed with sufficient speed so as to press the hare well and forcibly, it is a most winning style; especially in such countries as Wiltshire or Berkshire, because the hare does not come round, and the competing dog cannot, or does not, get in for many wrenches in succession. But too often the dog which works in this style does nothing really with his hare; he merely turns as she turns, and instead of commanding her, is only commanded by her. He therefore is easily beaten by a more courageous dog, although with an inferior one he looks, to a common observer, a very formidable antagonist. Such an animal is just the one which leads on the young courser till he is put out by a good dog; as, from his apparent power of working, he thinks he is a very superior performer. Nevertheless, such dogs often win courses, though they do not deserve them; because though they do nothing with a fresh and fast hare, yet when a hare has been well knocked about by a fast greyhound, and reduced in pace (to the great reduction also of the powers and speed of the greyhound which has effected this alteration), the slow and good worker, as he is called, comes out to great advantage; and, after turning *behind his hare* ten or a dozen times, is enabled to pick her up. Such is the conclusion of many courses in every public meeting; and by the inevitable decision, the *coup de grâce* is given to a comparatively good greyhound by an animal which never would have turned his hare at all, but for the early assistance of his discomfited antagonist. Besides these varied styles of going at the hare, there are variations also in the dog's coming round when she turns; thus, he may stop short and wheel round on his hind-legs by the power of his shoulders; or he may run a segment of a circle without attempting to stop himself, but rather to contract his circle. Many degrees of these styles are seen, but all kinds of coming round resolve themselves into one or other of these two. The former is *generally* the mode adopted by slow dogs, the latter by fast ones; though many very fast dogs have the power of stopping themselves quite suddenly, and some dogs display each mode at different times; sometimes adopting the one style, and sometimes the other. Indeed, it is wonderful to see the power which some dogs possess of accommodating themselves to circumstances, and more especially to the nature of their hare. Some must have a "good hare;" some want a short-running but stout hare; and some like a decidedly bad hare: but others can

display their powers with any hare, and seem different dogs altogether with fast and slow hares. Again, in killing, great difference exists, some dogs seeming to be able to run into their hares without a turn; while others, as fast from the slips, never dream of killing till they have tried the effect of half a dozen turns. There must be a power of fascination like that of the rattlesnake in some dogs, or they never could run into their hares one after another as they do. No attempt seems made to escape from their jaws, but the hare succumbs without trying a turn. The external conformation which usually accompanies this power of turning and killing is not very well marked; indeed, it may be said that it is impossible to foretell by the form what working power the possessor may exhibit. Large dogs are often said to be bad workers, but many examples to the contrary might be adduced. Again, speed is thought to be incompatible with working power; but here again many examples to the contrary are well known; though it is manifest that, *ceteris paribus*, a slow dog can turn closer than a fast one. Still, though he may be able to turn more closely, he does not work better; because he does not really do so much with his hare, and though he turns on less ground, he does not knock his hare about, and reduce her speed in the same way as the faster dog. I am quite satisfied that working power is inherent in the breed; and its seat is in the nervous system. This will be made clear in examining the various breeds, in some of which you see the same good style of working pervade every make and shape; whilst in others you see bad workers with forms which you would fancy the models of perfection. The fact is, that for perfect working a considerable degree of mental activity and quickness is required, which shall enable the dog to do enough to distress the hare without distressing himself. A good greyhound is never a fool, whatever may be said by old-fashioned coursers. Depend upon it, that a greyhound soon learns to know all the motions of the hare, and is prepared to defeat them; and this tact he learns often before he has ever seen a hare, by chasing his companions in their play. Cunning is often acquired in this way, but sufficient knowledge must be somehow obtained, and, I believe, this is the best mode. There is a great difference in the ways of starting off in the play; some go off straight ahead, without trying to throw out their pursuers, whilst others spirt here, there, and everywhere, and are generally good workers themselves, and also the means of making their playfellows equally good. All this, however, is mental and not bodily, and no clue can be gained to its possession by any guide of which I am aware. Remember that too much knowledge or cleverness soon leads to lurching; and that in proportion to its rapid development will in general be its speedy decay by that dire malady. The extent of the killing propensity I believe in most cases to depend upon a proper development of the posterior part of the brain, occasioning a width across the ears, which accompanies the dog of high courage in most cases. But so little is known of the nervous system, that further than this I can give no clue to its mysteries.

STOUTNESS depends partly upon general muscular development, without which it can scarcely exist; but chiefly upon the state of the heart. This is well known in all animals, and the phrase is founded in truth which says that such a horse or dog "has got a bad heart." By this is meant that he succumbs to fatigue without a struggle, and that he does not use all his efforts when tested. Now this may arise from two causes—first, from a want of tone, so that the muscles cease to act, and become powerless, which is, in fact, a want of what is called *stoutness*; and secondly, from a want of *courage* to bear difficulties, fatigues, and punishments. The first is that which I am now considering, and is not confined to the brain, as far as I believe, but to the whole nervous system. Thus a man may be intellectually of a very low grade, and yet very stout, and able to bear fatigues and punishments of all kinds well, as we see in the prize-fighter strongly exemplified. He is often a mere machine, incapable of acting on the offensive to any brilliant degree, but able to bear such an amount of punishment as would annihilate a frame composed of more highly endowed and sensitive materials. So with the lower animals: the weasel, the polecat, and even the common cat will bear with impunity such injuries as would destroy half a dozen lives in some of the more highly developed animals, such as the dog or the monkey. All this shows that there is a vast disparity in the power of endurance displayed in different animals, and that it is a negative quality altogether, resembling in its attributes the characteristics of the true bulldog. This animal is not so remarkable for courage as for obstinate perseverance in his purpose, so that he will suffer himself to be cut to pieces before he will let go his hold. Many dogs will attack a bull, or even a tiger, just as boldly

as the bulldog; but they will not bear their injuries without flinching, nor will they continue the attack regardless of all resistance, like the high-bred bulldog. These attributes, then, are said to reside in the nervous system, because we do not know where else to locate them; and the ordinary name by which they are recognised is stoutness, pluck, or bottom—the former being that which is usually applied to the greyhound.

COURAGE in the greyhound is the climax to all his other qualities, and without it, though ever so good in form, he is disinclined to use his powers, and is utterly worthless. What advantage is it to possess a dog as fast as the wind and as clever as a Solon, if he will not exert his powers, or if he succumbs in a severe struggle, or provided he has a fall or a broken nail? On the contrary, it leads to a loss instead of a gain, because stakes are paid, and expenses incurred, in the hope of success, which is marred by a want of that essential point whose properties I am describing. It is the quality which imparts vigour to act and courage to bear whatever may befall the dog; and it is the one which puts the final touch to the general properties, which, without it, are useless, because they are not put into operation. The greyhound is unlike the racehorse, in that he has no persuaders at his side, or whip over his neck; but his own spirit is his only motive, and therefore without that stimulus in full perfection, he is a dull and useless cub. But beyond the formation of brain already alluded to, I know of no external mark of its development; and here again breed is the only probable guide to its existence. Some of those whose courage is of the highest class look dull and sleepy till they are animated by the game before them; while again many lively and apparently high-couraged dogs quickly give up under the slightest punishment or distress. Hence it may be said that no rule can be laid down on the subject of either stoutness or courage, founded upon the appearance or form of the greyhound.

EXTERNAL FORM.—Such being the general qualities which must be possessed by the greyhound that is to be successful in public contests, let us now examine into the external form most likely to insure that success. This can only be done by comparing the shapes, size, weight, and colours of the winning greyhounds with their defeated antagonists, and endeavouring to deduce certain rules from the facts which come out in the inquiry. I shall therefore begin by investigating the shapes most likely to insure success; though at the same time there can be no doubt that the greyhound, like the horse, can run and win in all forms.

THE HEAD, I have already remarked, should be wide behind, and should be considerably larger in circumference, if measured over the ears, than over the eyebrows. For dogs of good size, I believe the measure over the ears should be about 15 inches, and for bitches from 14 to 14½ inches, according to the general size of the head, which is sometimes very small and neat in them without injury. The jaw should be very lean, with a good muscular development on the cheek, which gives a strong hold, and enables the dog to bear his hare in striking at her. The head of the greyhound is compared to that of the snake, but it is a far-fetched comparison, save in the flatness of the top, and the width, which certainly are points of resemblance; but the nose is so different that the likeness is a very poor one. The teeth should be good, and in young dogs white and free from tartar; indeed, in a well-reared dog, the whiteness is of such a kind as to excel the finest ivory. This is a strong mark of good rearing, and indicates the habitual use of bones, the gnawing of which not only cleans the teeth, but aids in their formation, and also increases the general health of the whole system. The eye should be bright and tolerably full, though I have never been able to satisfy myself as to the general possession of any one kind of eye by good public greyhounds. I have seen, I think, as many of any one colour which can be mentioned, as of others common in the greyhound. So with the ears; different breeds are so very variously furnished with this appendage, that nothing can be made of it as a sign of good or bad qualities. Some good ones are possessed of falling, soft, and broad ears; others of sharp and screwed-up ears; and others again of foxy, pricked ears; and these are very remarkable in the descendants of Heather-jock, belonging to Dr. Brown, in Scotland, who often inherit this peculiarity to the third and fourth generation.

THE NECK is a very beautiful part of the high-bred greyhound, and is properly compared with that of the drake, though not quite coming up to the elegance of that bird. In many breeds, however, the neck is extremely long and swan-like; and this point gives great power of reaching the hare without losing the stride, which would be a fatal drawback in the fast dog. Some

of our best breeds are very remarkable for good heads and necks; as, for instance, those of the blood of Sir James Boswell's Jason, which possess these organs in great perfection, and are very remarkable in most instances for killing powers. In a well-formed dog, the junction of the head with the neck ought to be midway between the point of the nose and the front of the shoulder-blades.

THE CHEST AND NECK together constitute the body or trunk. The CHEST is a conical cavity adapted to contain the lungs, heart, and great vessels, to protect them from injury, and to inflate the lungs by enlarging the capacity of the chamber which contains them. Such a cavity must, therefore, be of sufficient volume for the first purpose, of sufficient strength for the second, and of sufficiently varying capacity for the third; and all these offices the chest of the greyhound efficiently performs. But not only must it be thus formed, but it must also be so flattened on the sides that the shoulder-blades shall lie smoothly upon them, and have free play to extend themselves. In order to meet all these requirements, the chest of the greyhound is deeper than in most animals, so as to give increase of volume without separating the shoulders too much, or placing their blades upon too convex a surface. But if the chest is prolonged too far downwards, it strikes the ground in the efforts made to stop the speed at the turns, and in that way is prejudicial to the going of the dog. Thus, a happy medium is required in this department, and the chest must be wide, but not too round, and deep, without being so much so as to interfere with the working powers. Besides these two points, it is important that the ribs shall be well separated from each other, so that they may expand the cavity properly, or otherwise respiration is not performed with sufficient power and velocity. This width of the spaces is known to exist by the comparative length between the breast and the last rib at the loin; but, again, this must not be too great, or the back is rendered weak, and incapable of those vigorous and quick efforts which the gallop requires. By a reference to the anatomy of the dog, it will be seen that the chest is composed of various bones, together making this framework, and moved by muscles which are attached to them, so as to expand and contract in the actions of respiration. To the upper and hinder part of the chest the BACK is firmly attached, the muscles of that important part in the greyhound being inserted into the necks of the posterior ribs. It may be said to connect the fore-quarter with the hind, and to be one of the chief means of producing those extraordinary strides peculiar to fast gallopers. It is composed of a flexible, bony centre, part of which runs up between the ribs, and is also a component part of the chest; while the remainder is free in its middle course (constituting the true loin), and attached behind to the pelvis. But it is more especially in the *muscles* of the back that the powers of the greyhound reside, though these again are partly indebted for their capabilities to the bones upon which they lie. It is quite clear, that unless the angles of the ribs are wide apart, and unless the hips (or couples, as they are commonly called) are also wide and free, there cannot be a full development of the muscular structure, for want of framework to lie upon and contract. Therefore, though a good frame is necessary to form a good back, it does not always follow that it shall be accompanied by that greatly-to-be-desired point. The old coursers desired "a back like a beam"—that is to say, with square edges, and as if chopped out of a block. This I have never seen fully displayed, except in one or two dogs, which were by no means good performers; and I attach more importance to depth and volume of muscle than to squareness of the edge. The back ought to be well let into the shoulders—that is to say, the muscles which compose it ought to run well forward towards the shoulder-blades, and should leave a strong ridge of muscle standing up above the ribs on each side of the spine. This is a very important point, and one which almost every good greyhound exhibits. Its absence betokens great weakness, and a want of endurance; for though the dog may be fast without it, he is seldom capable of continuing his speed. Another very important shape in the back is the due development of the muscles *under* the spine. The back itself consists of four bundles of muscles, separated from one another by the spinous processes which project upwards, and also by the transverse processes which project out sideways. Now these transverse processes divide the upper muscles which straighten the back from the lower ones which arch it, and the latter are the main agents in bringing the hind-quarters forward after the stride is taken. It is, therefore, upon them that this action depends, and without their proper development the hind-legs do not sufficiently come forward to enable the dog to arrive at high speed. The essential points, therefore, are—

first, sufficient volume of muscle; secondly, its being well carried forward to the shoulders; thirdly, its due development below as well as above; and fourthly, its not being weak in any part, for without this, a back large in volume may be rendered useless by being nipped at some particular part, often being so just at the junction with the back-ribs, or with the couples. The neck is attached to the front of the chest, and the tail to the back of the pelvis; so that altogether these parts form one continuous bony chain. It is supposed by many that the tail should be very fine and thin, and I am inclined to believe that the terminal bones should be, in order to show good breeding; but the root may be as strong and powerful as possible.

THE HIND-QUARTER is the main element of progression, and upon it in a great measure depend the speed and power of the greyhound. As in all other cases, size is power, and the greater the length and size of the hind-quarter, so will be the power of propulsion. This length is variously displayed: sometimes the hind-leg being long, but straight; whilst in others it is more or less bent at two places —the stifle and hock. It will generally be observed that when the part of the leg below the hock is comparatively short, the bones above that part are bent at the stifle, and the whole hind-quarter is long, without raising the back from the ground, as would be the case with the same length of limb in a more straight form. As far as my observation goes, the bent hind-quarter is the more favourable form; but I have seen many good dogs with very straight stifles, and there can be no reason why these should not serve the purpose of propulsion as well as the bent ones. But though they can propel as well, and perhaps even better under some circumstances, they are quite useless unless they are accompanied by a low fore-quarter; for if otherwise, the fore-leg is too long in proportion, and the power of working and killing is at a very low ebb. Two essentials are required, as I have already shown—viz., speed and working power. Now, speed may be given from length of hind-quarter, whether that length is usually in an extended or in a bent form, because when in action they both assume the same condition, and are then precisely similar the one to the other; but the working power is deficient if there is the *usual* accompaniment of the straight hind-quarter —viz., a long fore-leg. It will be evident that if the hind-quarter is straight, and the fore-leg is properly proportioned—that is to say, short enough for the working powers—the fore-quarter will appear very low, and the hips will stand up far above the shoulder. Now, if this formation co-exists with the straight hind-leg, all may be in good proportion; but if not, it seldom happens that the dog can stoop to reach his hare without spoiling his stride. Nevertheless, a remarkable exception is sometimes seen, in which there is great working and killing power displayed, with a high shoulder and long fore-legs. This, however, is contrary to rule, and in selecting a good shape, no experienced courser would take such a formation without a practical proof of its efficiency in that particular instance. Next to the length of limb, the due development of the joints is of great importance; the stifle joints ought to be strong and broad, and the bony processes powerful and large. The hocks, also, should be long and powerful, and well separated from the leg bone, by that thin double layer of skin which may be felt, and almost seen through. The muscles are divided into two large masses, the upper thigh, which is scarcely to be made out without the touch, being, as it were, buried in the body and flank; and the lower thigh, which is much more distinct, and of very great importance to the powers of galloping. This lower thigh is a very desirable point, if well developed; and in making a selection for breeding, its large size should be especially insisted upon. Good hind-feet, again, are necessary, but I do not like them too round and cat-like; at the same time, a long flat foot is opposed to high speed, and also prevents a due hold being taken of the ground. Wherever there is this long, flat, and broken-down foot, I should not look either for high speed, or for the power of continuing the efforts of the greyhound. There is a want of that elasticity and springiness which characterize the movements of this graceful animal, and he goes dull and dead instead of being animated and ready for any exertion.

THE FORE-QUARTER is the complement to the hind-quarter, and can do nothing until set in motion by that part of the animal economy; but, in spite of this secondary part in the locomotive department, it is not less important than the primary cause of motion, because, though not originating it, it can and does neutralize the efforts of the hind-quarter, if not calculated to carry them out. The great purpose of the fore-quarter is to enable the animal to take advantage of the propulsion given by the vigorous contraction of the hind one, and thus to carry the

animal on in the intervals of the strokes. If, therefore, the fore-quarter is dull, heavy, and incapable of extension, the stroke is broken and suspended, and the pace is reduced accordingly. But besides this purpose, in which the fore-quarter of the racehorse bears a similar part, that of the greyhound is also used in stopping the speed, and turning the body to the right or left, when the hare makes one of those turns which she delights in. Here the shoulder requires to be pliable yet strong, and there must be considerable play in all its parts, or it will give way in the violent effort made to change the direction of the speed. The outward formation for these purposes is well known and recognised by all in its general principles, though there may be a difference of opinion as to its details. Every one is agreed that the line through the shoulder-blade should be oblique, because that gives, in the first place, greater absolute length of blade; and, in the second, it gives greater power over the arm, so that it may be protruded further, and with greater force than is the case with a short and upright blade. This will be made clear in the chapter treating of the structure of the dog; but it is acknowledged as a fact, that such oblique shoulders conduce to that conjunction of speed and working power which is desired. At the same time, I think I have seen so many cases of upright shoulders united with great pace and cleverness, that the rule is by no means an absolute one. But one rule is, I think, of that nature—viz., that where there are confined shoulders not acting with any liberty, but glued in their places, then the speed is not good, and the working power absolutely null. With good sloping shoulder-blades there is almost always combined a formation which is of the greatest consequence, and that is a long upper arm—that is to say, a long bone intervening between the shoulder-blade and the elbow. This length of arm generally coincides with good length from the hip to the hock; and when that quarter is bent, as I have already described, the oblique shoulder-blade, long upper arm, and low elbow, usually accompany it; in most cases, also, there is a knee close to the ground, and thus the fore and hind-quarters agree in formation, and will assuredly act together. When these points are combined, they make a perfect fore-quarter, and only want a strong useful foot, with a thick horny sole, to complete the requisites. As with the hind-foot, so with this; I am not fond of the very upright, small, and round foot; such are always drawing their nails, though they are certainly well suited for fine turf; but on fallows, or rough ground of any kind, the strong and moderately-flat foot is the more useful kind. The knuckles ought to be strong and well up, but the dog should not be too much on his toes; a spreading foot, however, with a thin sole devoid of horn, will never stand work, and should on that account be avoided.

THE COLOUR is one of those points in the greyhound which has been most disputed by different judges of his merits; one party considering it of the greatest importance, while the other decides that "a good dog, like a good horse, cannot be of a bad colour." With most people there is more or less of prejudice in this matter, and I am not perhaps exempt from this failing, when I own my leaning is to blacks and reds. This leaning, however, is not entirely guided by the eye; because it will be found that a large proportion of the winners in "Thacker" are of one or other of those colours. Indeed, my belief is, that all the colours exhibited by the greyhound are to be traced to them, and that when united with white (the result of domestication) they will produce any of the many other shades which appear in the lists. Thus, by ringing the changes of black, red, and white, every shade will be produced, as shown in the following table:—

THE MIXTURE OF	RESULT.
Black and red, No. 1.	Red, with Black muzzle.
Do. do. No. 2.	Red Brindle.
Do. do. No. 3.	Black and tan.
Black and white	Blue.
Red and white	Fawn.
Black, red & white, No. 1	Blue-fawn.
Do. do. do. No. 2	Fawn-brindle.
Do. do. do. No. 3	Blue-brindle.

These colours only result when they are mixed together in the coat generally; for when that is not the case the dog is patched with these colours in blotches, either of colour on a white ground, or of white on a coloured ground; and I am quite satisfied that these several hues result from an admixture of the blood of those greyhounds which have these colours in their pedigree-tables. Wherever the colour is confined to one only for some generations, the progeny will almost always be the same, and the whole litter will resemble one another in that respect; but when all colours of the rainbow are met with, it is impossible to guess at the probable colours of the expected offspring. From the above table it may be

gathered that wherever black is the prevailing colour, you will generally have blue also, if combined with any blood containing much white; and the same may be said of fawn, as a result of breeding from red united with white; also of brindle as occurring in a mixture of the various principal colours. This last is often thought to be *sui generis*; but it is nothing more than the consequence of the mixture of colours, and is seen in all the domestic animals but the horse, where there is a variety of colour as in the cow, the pig, the dog, and the cat. In the horse the mixture of colours is shown in the roan shade, and not in a brindle; though in some breeds there is a near approach to it, as in the Norman cream-coloured horse, which has a black stripe down the back, and some bars generally over the shoulder and down the arm. Still the true brindle never appears in the horse, but piebald, skewbald, and spotted horses in every other shape, are not uncommon. No reason for this exception can be given; but that such is the fact cannot be disputed. We may, from the above examination as to the causes of the varieties of colour, therefore conclude that black and red are the original shades, and that all others are caused by their mixture, or by the mingling of one or both with white, which is the type and badge of domesticity. Now as this badge is not advantageous to the greyhound, we may, I think, reasonably discard it when possible, or, at all events, when it is easy to do so, and accept the pure colours in preference. By many experienced breeders it is thought that shape and performances follow the colour; and that, in picking a puppy, it ought to be selected by its near approach to that colour which its best ancestor showed. Thus, supposing a litter of whelps to be black, red, and brindled, if the dam or sire, or any one of their progenitors, was particularly celebrated, then that puppy should be selected which most nearly resembled him or her *in colour*. This rule I have seen tried in numberless instances, but I never saw that it led to any good results; on the contrary, as with most other rules in the choice of whelps, I believe it only leads to dependence on a rotten reed.

The Coat is the last point in the conformation of the greyhound which will be here considered; and I believe it to be one of no consequence whatever. There is, however, one kind of coat which is radically bad; and that is a woolly fur, rather than hair, which, though short, has no gloss on it, and which gets wet on the slightest amount of rain. This is a very bad defence against the weather, and is a mark of weakness of constitution, which would always make me reject its wearer. In all other respects I am careless of the coat; and I regard coarse hair and thin hair as alike indicative only of particular breeds, equally good for all purposes. Many of our best breeds are very coarse in the hair, and often show a goodly brush in the tail, which, however, should, if hairy, be only fan-like, and not like the fox's brush, hairy all round. Some of the best Scotch blood have a cross of the old rough greyhound, but they seldom show the rough hair, which soon disappears in crossing with the smooth greyhound; though again it occasionally peeps out in a single puppy or two in a litter, far removed from the original strain. It is, I fancy, rather desirable than otherwise; but my experience of this cross is too slight to warrant a decided opinion. Most of the best modern greyhounds are well covered with hair; and the fancy for bare thighs and cheeks is well nigh out of date.

Sect. 4.—Best Mode of Procuring Greyhounds.

There are two ways of obtaining a kennel of greyhounds; one of which consists in purchasing, the other in setting to work to breed one. To the former mode there are many objections, not the least of which is, that few people sell what they believe to be good; and as they have better opportunities of trial than the purchaser, they are more likely to know than he is. It is very seldom that a *good* kennel of greyhounds is to be disposed of entire; few coursers are disgusted with the sport while success attends them; and even if they sell while in the heyday of their prosperity, a change in the management upsets all calculation, and the previously good runner turns out a loser instead. Of this many examples might be cited, not the least remarkable of which might be found in a former season in Lancashire, where a very celebrated and victorious kennel changed hands, and the cracks, although given into the management of a very successful trainer, were put down without difficulty at the Waterloo meeting. On the other hand, this change is sometimes advantageous, as in the case of Mortality, which changed hands four times before she could come out with anything like credit, and then beat one of her former kennel companions, supposed to be vastly superior to her. But, generally, it may be said that purchase is a bad speculation; and even when the whole kennel is *bonâ fide* to be

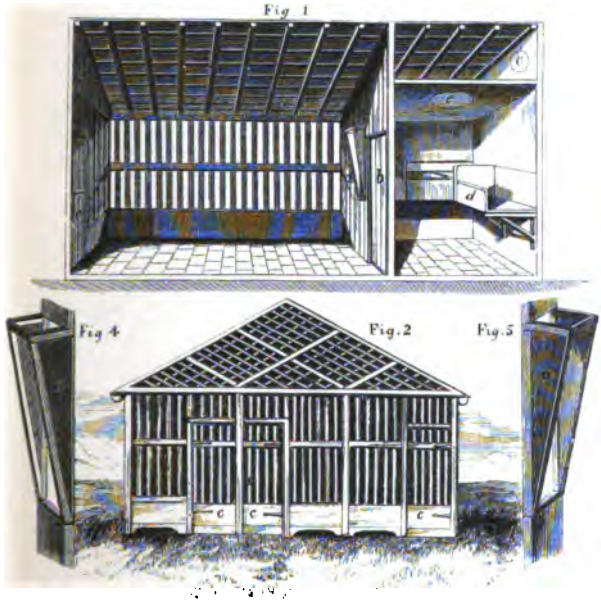
disposed of, the young courser is generally supplanted by the old hand, who is possessed of information obtained from good quarters, and therefore to be relied on. In such a sale only the external form can be studied, and this is seldom to be depended on as a certain guide; action is the main reliance for choice at the puppy-age, and in a loose box, or in an auctioneer's yard, none can be seen. Some good purchases have been made in this way; as, for instance, Mocking-bird and Movement, into and out of a celebrated kennel; and Mr. Randell's celebrated bitch, Rival, purchased at Sir H. G. Gore's sale for about 15*l.* At that sale also occurred a curious instance of the little value to be put upon information as to the relative value of puppies. Before the sale, a person who had had good opportunities of judging of the respective merits of the puppies was asked for his opinion by Mr. Randell, and he advised him by all means to buy one by Magician out of Shade; and, acting upon that advice, he did buy her at about the same price as Rival, which bitch he selected on his own judgment. Here, then, was a bitch by a Waterloo-cup winner out of a Waterloo-cup winner, and recommended by a good judge, who had seen her in her play at various times, yet she proved utterly useless, while the comparatively disregarded companion turned out certainly one of the best, if not the very best, greyhound of her year. Such is the lottery in purchasing; and the same may perhaps be said of breeding; but then the outlay is not so great, and the annoyance also is relieved by the absence of any specific sum as spent upon a worthless brute. But in case of the necessity for a purchase, it is much better to buy a brace or two of whelps at weaning-time, than to buy puppies of the age of ten or twelve months, for the choice is not worth much at the early period I have named, and the good judge will often allow the best puppies in a litter to pass into strange hands without intending it. Before three months there is very little choice; and if only the legs and feet are good, and there is no rupture or other malformation, I should care little as to the pick of the litter at weaning-time. There are, of course, some which are unhealthy and half-starved, but I do not speak of the last pick, but of the difference between the two or three best in the litter. Let the young courser, therefore, if he must buy, determine upon the blood he requires, and then let him purchase a brace or two of whelps of that blood, getting some friend to pick them for him out of the litter, but contenting himself with the second or third pick as quite equal to the first, in all human probability. These whelps he may proceed to rear upon the principles which will be found hereafter detailed. In the meantime, and while they are coming on, there will be a season to spare, and during that season the tyro should experimentalize on a brace of greyhounds of average goodness, which he may buy for 5*l.* apiece, or often obtain as a gift. With these he may appear in the private coursing-field, or on those semi-public days which are so common in every coursing neighbourhood, and where he may pit them against equally inferior dogs as often as he likes. Let him bestow every pains upon them, and try all he knows, or his trainer, if he has one, for it will require plenty of good management to make them do more in his hands than they did before in the hands of their previous master. But they will serve to give him an insight into the peculiarities of the animal, and he will learn to know what to avoid in his treatment, and what is injurious to them, if not always what is the most successful kind of management. In this way I have known gifts turned into winning dogs; and low-priced ones, after being discarded from large kennels, have been able to do wonders, comparatively speaking, when treated in a different way in a smaller and more limited stud. My advice, therefore, would be to all young coursers, not to attempt to do too much at first, but to purchase or beg a brace or two of inferior greyhounds, and make the most of them for the first season; and, in the meantime, to breed or purchase a few whelps, which, by the beginning of the second season, when practice has fitted the trainer for their management, will be ready to take the field with some prospect of success.

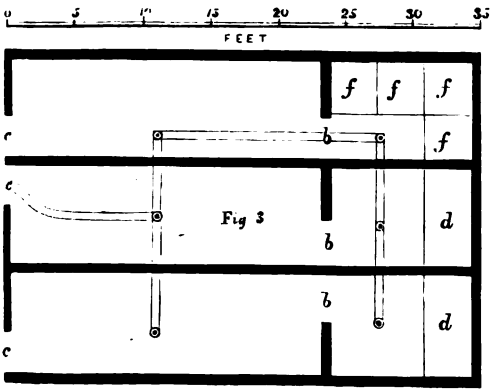
Sect. 5.—Kennels, and Kennel Management.

Kennels for greyhounds should be constructed on a very different plan to those already described for foxhounds or harriers. For the more delicate greyhound, which is clothed on exposure to the cold, and otherwise protected, a covered court is always desirable; and without it, he will not leave his lodging-room in bad weather to empty himself, but will soil that apartment in a way which is certainly not conducive to his health. Besides this, more than four or five greyhounds should never be in one division, as they are so highly fed that they are always fighting and laming one

another; and they are also less healthy than when in smaller numbers. The annexed plans and elevation will be found to be all that is required for from twelve to sixteen running dogs, which is quite as great a number as ought to be kept together at any one time. These kennels should be from 25 to 35 feet long, by 24 or 25 feet wide; and the whole parallelogram should be roofed-in either with slate, or boarding, or felt; but whatever material is used should be white-washed, or painted of a light colour, on account of the heat absorbed by the natural colour of the slates, or by the dark colour of pitch, as usually applied to felt. This area should be subdivided longitudinally into three kennels, each 8 feet wide; and these again should be divided off into an inner sleeping-room, and an outer yard, with a door (*figs.* 1 and 3, *b*) and window (*figs.* 1, 4, and 5, *a a a*) between, and a ventilator in the ceiling and outer-wall, as shown in the plan at *e e*. A bed (*d*) should be raised about 1 foot 6 inches from the floor, and the sides, back, and front should be lined with boarding about 9 inches high. If the dogs are quarrelsome, each should have a separate compartment boarded off, about 18 inches high, as shown at *f f f f*, *fig.* 3, and at *d*, *fig.* 1. This will enable any one of four dogs to have a compartment to himself, even if he is continually chased about, because he will always have an empty one to fly to; and this is sometimes of great consequence, as it frequently happens that a cowardly dog is driven off the bed, and obliged to lie on the floor, to the imminent danger of producing rheumatism in some one of its multifarious forms. This is the way in which kennel-lameness is often produced, and also many other varieties of chronic rheumatism. *Fig.* 1 gives a perspective view of the interior of one division of the kennel, adapted for four quarrelsome dogs or bitches. It shows the outer-yard on the left, with its doors (*c* and *b*), and the sleeping-room on the right, with its ventilating window (*a*), also shown enlarged in *figs.* 4 and 5, and its ventilators in the ceiling and end-wall (*e e*). The beds, partitioned off, are shown at *d*. *Fig.* 2 shows the elevation of the end of the whole kennels, and *fig.* 3 the ground-plan with the course of the drains. If a greater number of greyhounds are kept than this kennel will accommodate, it is better to provide for them elsewhere in a similar way, or to put them for the time in loose boxes or outbuildings of any form.* The walls should be of good hard-burnt bricks—not porous, so as to absorb the secretions; and are better covered with a layer of cement. The floor should be laid in glazed tiles, imbedded in a layer of cement, upon concrete composed of cinders, or clinkers, mixed with gravel and lime in equal proportions. This sets very hard, but it should have on it a layer of cement, just thick enough to hold the tiles securely in their places, and prevent the water from insinuating itself into the crevices between them.

THE KENNEL MANAGEMENT is mainly dependent upon cleanliness and regularity for success. Every kennel should be scrupulously clean, and should be washed down and carefully mopped dry once a day. This should be done while the inmates are at exercise, and it will be nearly dry when they return. A layer of sawdust should always be on the floor in cold weather, but in the summer it is cleaner and better without it. Some use straw, but I think sawdust better and more easily renewed and removed. For the beds, good straw is the best, and in the heat of summer nothing at all. Greyhounds will then far rather sleep upon bare boards than upon the straw; and will, if their beds are full of it, sleep upon the floor in preference. Deal shavings are said to be obnoxious to fleas, but I never found them of much use. The feeding need not be here described, as it will be given more in detail at the proper time. Water should always be kept in iron vessels, fixed at about a foot from the ground to prevent its being soiled; and it should be regularly boiled when the dogs are in training, to prevent the change from producing injurious consequences. In all ordinary weather the door between the yard and the sleeping-room (*figs.* 1 and 3, *b b b b*) may be left ajar, for which purpose a couple of loose tiles are very useful, one inside and the other out; but in severe weather it must be closed. Some cut a hole in the door, and hang a piece of carpet against it; but this is not a good plan, because, in severe weather, it allows the wind to penetrate to too great a degree for the health of the greyhound.





PLAN OF GREYHOUND KENNELS. P. 188.

CHAPTER III.

VARIETIES OF THE MODERN GREYHOUND.

Sect. 1.—The Newmarket Greyhound.

This variety stands at the head of the list as the probable root of all our modern subdivisions. It is well known that the greyhound has been used in public at Newmarket longer than elsewhere, and that the greyhounds running there, being considered as of superior quality, have been eagerly sought after throughout the length and breadth of the land. Pedigrees almost always end in some dog or bitch said to have come from a kennel celebrated at Newmarket; showing either that this breed was superior to all others, or else that it was supposed to be so. The characteristics, therefore, of this dog are really those which are generally most highly prized, as shown by the avidity which has always been displayed to obtain the breed, which, until lately, was very difficult to procure. In the days of Lord Orford and Lord Rivers, no money could procure the best blood of their kennels, and their inferior drafts only were obtained, and often these were not to be had without great difficulty and favouritism. Since the time, however, of Lord Rivers' final sale, when his blood became generally dispersed, Captain Daintree first began the system of throwing open his best blood to the public at a fixed price; and his King Cob, with Mr. Fyson's Fantail, were advertised at 5*l.* 5*s.*, as is now so commonly done. The consequence has been, that any person who can procure a bitch, and has the command of five or ten guineas, is enabled to obtain as good blood as the highest nobleman in the land, and can compete on favourable terms in any company of coursers, at least as far as his breed of greyhounds is concerned. The characteristics of the true Newmarket greyhound are, therefore, those of the most racing-like dog, and are the result of a long selection from successful parents for many years past, over ground which is not so severe as to hold pace in abeyance, nor yet so confined as to make pace the only criterion. This was formerly more true of the ground at Newmarket than at present, as its character has been much altered by the encroachments of the railway upon the best part of it. The Newmarket greyhound, then, is a racing-like, speedy animal, yet possessed of as much stoutness as possible, in combination with high speed. His head and neck are of the most approved form, but perhaps a little too elegant and light to be thoroughly efficient—that is to say, that, according to my ideas, there is scarcely sufficient room for a brain of volume enough to form a good centre of the nervous system. The chest is very deep, and of good volume, though often rather flat-sided; back scarcely so stout as it should be; thighs and hocks extremely well bent, and strong; shoulders slanting, light, yet muscular, and very moveable; fore-legs straight, and feet good. In action these dogs are light and fast gallopers, and being generally of good size, they are able to beat most others to the hare. They are seldom very first-rate workers, being too large and fast to compete with slower and smaller dogs; but many of them have extraordinary powers of coming round with their hares, considering their speed and size. In effecting this purpose, most fast dogs of this breed turn by running a segment of a circle, without stopping themselves and starting afresh; and in doing this, they maintain their high speed in a wonderful manner; but this mode of working requires a very fast and racing hare to show itself; for with a short-running or weak hare, these round-turning dogs are all abroad, and seem unable and even unwilling to exert themselves. But with a fast hare they show themselves to great perfection; and if they let in a closer worker, they go by him in the stretches again and again. In moderately-short courses, therefore, with fast hares, they beat everything not so fast as themselves; but in severe courses with hares which will not allow themselves to be killed, they exhaust their powers by their efforts, and then often suffer defeat by a dog which would perhaps never have reached the hare in question but for them. This is one of the lotteries of coursing which makes the certainty of success so much more difficult in that pursuit than in any other; for as you can never tell beforehand either the length of the course or the nature of the hare, it is quite impossible to be always prepared to meet the exact difficulties which will have to be surmounted. The only thing therefore to be done is to select the dog which will succeed in the greatest proportion of events out of a given

number; and then, I think, the Newmarket variety, as above described, will always bear the prize. I do not mean dogs such as now are used at Newmarket, but such as are descended from the best blood of those kennels which were victorious in the palmy days of that celebrated locality. The most successful of these, as sires, have been of late years Captain Daintree's King Cob, Mr. Fyson's Foremost and Figaro, both sons of his celebrated bitch, Frederica, and close rivals while alive in getting winning stock. After the first generation, however, Figaro went far ahead of Foremost, though the latter had an excellent trial of his powers at the stud, through his sons Czar, War Eagle, Wrestler, and Staymaker, to whom many of the best bitches in the kingdom were put, while Turquoise, Wicked Eye, and several other bitches of first-class running powers were used with a similar result, Wicked Eye only producing one good litter—namely, that by Mr. Borron's Bluelight. Contrasting most favourably with these are the descendants of Frederica's son by King Cob, from whom we trace, with various crosses of blood, the following well-known sires of recent dogs —viz., Weapon, Bedlamite (a host in himself), and his sons, Jacobite, The Wizard, Black Adder, Black Eagle, Ranter, Gipsy Prince, Gipsy Royal, and Gipsy King, with whom must be joined the celebrated bitch Riot, sister to Ranter and the Gipsies. Besides these we find also Effort, The Brewer, Regan, Rebel, Selby, Cardinal York, Picton, Mansoor, Mechanic, Windermere, Railroad, Kingwater, Ingomar, &c., all tracing back to Figaro, either through the male or female lines, so that the Foremost strain is quite eclipsed in the present day, Baron Garnoch in Scotland, and the son of "the little Irish terrier," Mr. Blue Hat, in Ireland, with Railroad and Sea Gull in England, being the chief public stallions containing any infusion of that blood. As a further confirmation of the value of the Figaro strain, it should not be forgotten that there are several collateral descendants from King Cob of nearly equal value, as, for instance, Baron, Ladylike, and Sam, from the last of whom spring David and Patent, with their relations Gabriel, Colchicum, Lapidist, and Little Wonder. Thus a large proportion of the stallions of the present day may be traced to King Cob, and chiefly through Figaro, than which it is impossible to discover a more convincing proof of the general opinion in its favour; and though the pure Newmarket blood of Foremost and King-Cob is now not to be met with, yet it prevails so extensively when mixed with the Lancashire, Scotch, and Yorkshire varieties, that it must not be forgotten.

Sect. 2.—The Wiltshire Greyhound.

The old Wiltshire greyhound is now almost or quite extinct, even the private coursers of that district having introduced crosses with the Newmarket or Lancashire dogs. As formerly existing in the kennels of Dr. Scott and other local celebrities, the Wiltshire dog showed a small, compact, and wiry frame, well suited to the long courses which were more often met with in former days than now, when small plantations have been formed expressly for the purpose of affording homes for the hares. He could not race with the faster greyhounds of Newmarket, Lancashire, or Yorkshire, but with a strong, stout-running hare he could often outwork them; and in this way Little Vic, Alacrity, and Seidlitz achieved their successes. At present, however, it is useless to allude further to this variety.

Sect. 3.—The Lancashire Greyhound.

The flats of Lancashire which are used for coursing are nearly all reclaimed land composed of perfectly level plains intersected by ditches; the soil is peaty, and a great part of it is cultivated by the plough: hence the greyhounds for this country must be large and strong; and as the ditches which intersect the fields, for the purpose of draining them, are rather numerous, they must be possessed of sufficient tact and cleverness to avoid mistakes at those impediments to the course. The soil is very dead and non-elastic, from the presence of the peat either at the surface or close beneath it; and the kind of gallop, which is the most telling on it, is rather a longer one than that which is the best suited to sound turf or a sandy soil. From the absence of hills, also, the faculty of climbing them is not called into play, and consequently there is no necessity for that formation which enables the greyhound to surmount them. Speed, therefore, is the chief element of success, and in the soft soil of the reclaimed land many a dog is able to stop himself, who would be a very wide runner on the downs of Wiltshire, the sound land of Yorkshire, or the lowlands of Scotland. It must not, however, be supposed that stoutness is not required on this kind of ground, for on the contrary, it will be seen by those who attend the Lytham and Altcar meetings, that many of the courses are of great length and severity;

and, on account of the want of elasticity in the soil, they are of a most distressing character. Indeed, when a good Lytham hare is able to get away from a brace of greyhounds, she leads them such a dance as is seldom witnessed elsewhere, because, having often no home, she is obliged to persevere till she shakes them entirely off by running them to a stand-still. Nevertheless, greyhounds run through more seasons in that country than elsewhere, because they are seldom lamed, there being no flints or fences to do any damage; and as nothing makes a dog cunning so soon as the running him when in pain, so the absence of this condition ensures his going on without the appearance of any lurching propensity. With all these advantages in his favour, it has resulted that the Lancashire greyhound has not been improved to the same extent as his Newmarket rival; just as we often see the best natural soils in the worst state of artificial cultivation, so the greyhound which has the easiest task, and is the least tried by adverse circumstances, is really a worse animal in the long run than his more hardly-used antagonist. In shape and make the Lancashire greyhound very nearly resembles the Newmarket dog, but does not show such high breeding in any of those points which are considered signs of that quality; the head is not so lean, and the jaw is coarser; there is even less development of brain than in the Newmarket greyhound, and the neck is shorter and thicker, though still long enough for the purposes to which it is applied. In general size he is, perhaps, a little above the standard of Newmarket, some of the most celebrated dogs having been 28 inches high and 70 lbs. in weight; as, for instance, Tyrant, Emperor, Earwig, Priam, and Sandy. Most of the Lancashire dogs have a very long stride, and I am inclined to believe that this is a very important feature in their conformation, since, from the nature of the soil, it is not well adapted for those quick short strokes which are often successful on sound and short turf. Nevertheless, a good Newmarket greyhound, *when used to the ditches*, has generally succeeded in carrying off the Lancashire prizes, and that blood has latterly been extensively introduced by the Altcar and Lytham coursers. When, however, a really good specimen of the old Lancashire greyhound has made an appearance there, nothing has been able to come near it; and the wonderful performances of Cerito will long be remembered in that neighbourhood. This bitch was entirely of Lancashire blood, and was exactly suited to the ground she won her triumphs on. Her stride was enormous, and consequently she was not successful upon hard ground like that of Amesbury and Market Weighton. But, putting her exceptional case on one side, during the twelve years between 1843 and 1855, in which the Newmarket blood was first tried at the Waterloo-cup meeting, greyhounds of the true Lancashire breed were victorious four times, whilst the true Newmarket succeeded twice. Again, a cross of that breed with the Scotch won the much-coveted prize once, in the person of Hughie Graham; against the same feat on the part of the combination of Newmarket and Lancashire in Sackcloth, and the Lancashire and Scotch in Judge; so that it stands thus:—Lancashire, 7; Newmarket, 2; Lancashire and Scotch, 1; Lancashire and Newmarket, 1; and Newmarket and Scotch, 1: total, 12. In the runners-up during the same period, there were, however, only four Lancashire dogs and one Newmarket, the remaining seven being made up of five single specimens of the various crosses and two Scotch greyhounds, Larriston and Scotland Yet. It will be seen that the former great superiority of this breed on its own ground has not been maintained of late, and that others have had, with the single exception of Cerito, quite as good a chance from 1847 to 1855. Still, the Lancashire blood is more fitted for its own plains than for other and more hilly countries, and consequently it is not often that its votaries are tempted to try their luck elsewhere. Sometimes, however, a good dog of this breed is successful on other ground, and the running of Sackcloth in Wiltshire will not soon be forgotten. It may be said that he was partly Newmarket, and certainly such is the case; but Lancashire can lay claim to three-fourths of the honour, he being only one-fourth Newmarket blood. Most of the Lancashire greyhounds are descended from very old blood, that is to say, blood which has been bred in-and-in, though not too closely, yet in the same families; and the consequence is that it tells very much in those dogs of which it composes a part. In this respect it resembles the Newmarket, and when the two are combined it is difficult to say which will predominate, though, as far as my observation goes, I am inclined to think that the Lancashire has the superiority in persistence. During the last ten years (1855–65) crossing with other strains has

been the rule rather than the exception in this district; and, indeed, only two stallions of pure Lancashire blood have been at the command of the breeder—viz., Judge and Skyrocket; but these two have, no doubt, been much used, and with great success. Comparing this period with the twelve years which we have previously alluded to (1843–55), we find the proportion of victories by sons and daughters of Lancashire bred dogs nearly as great; the Waterloo-cup having been won by Protest, Neville, Maid of the Mill, Canaradzo, Chloe, King Death, and Meg, and run up for by Judge, Sunbeam, Deacon, Sampler, Sea Rock, Bowfell, and King Tom; but of these only Maid of the Mill, Meg, Judge, Sunbeam, and Sea Rock can be considered pure Lanchashire; and even here the two bitches are probably more or less crossed with Yorkshire or Scotch strains. Of the twenty dogs thus successful as first or second for the great cup, Protest, Deacon, Clive, Selby, Sampler, Bowfell, Chloe, Rebe (this bitch twice running second), King Death, and King Tom, are the only examples of crosses with Newmarket blood, indicating that the preponderance of success is still strongly in favour of the Lancashire greyhound, on his own ground, whose blood can be traced in Protest, Judge, Sunbeam, Neville, Deacon, Maid of the Mill, Sampler, Canaradzo, Sea Rock, Roaring Meg, Bowfell, Chloe, King Death, Meg, and King Tom, the proportion being nearly two to one. It is, however, to the cross of the Lancashire with the Scotch greyhound, as we shall presently see, that the recent successes of Beacon's descendants, Canaradzo, Roaring Meg, King Death, and King Tom, are to be ascribed.

Sect. 4.—The Yorkshire Greyhound.

The scene of the struggles of this greyhound is different, again, from either of those already described, being of a most varied character; sometimes the fine turf of Malton or Huggate is the ground selected; next, perhaps, the flinty and sandy hills of Market Weighton will be run over; and finally, the rougher and stronger soil of Scarborough. The length of course is not often very great, because the hares are most of them covert-bred, and are only driven out for the occasion of the meeting; they, therefore, lie near their homes, and seldom afford too long a contest. From these causes it results, that while speed is still the most sought after, cleverness is the next in importance to the Yorkshire courser, and stoutness is less thought of than is the case where the courses are more severe. The Yorkshire greyhound, therefore, is characterized by speed as great as that of Newmarket, or Lancashire, coupled with a degree of cleverness rarely seen elsewhere; but, at the same time, sullied by a softness and tendency to lurch greater than is often met with further south. They are also of great size, but are rather coarse in their shapes, seldom having any appearance of blood, but looking ragged-hipped and useful, rather than level or elegant. No greyhound can beat them when in the humour, and the performances of Charles XII. and his descendants, among which were his nephew and grand-nephews, Velox, Rattler, and Assault, will make this blood remarkable for pace and cleverness. This breed may be said to extend to the borders of Scotland, where it becomes intermixed with that blood; and indeed, as far as I know, there is no public kennel of any form in which it is perpetuated in a pure state, Mr. Thompson having apparently relinquished the blood in favour of Canaradzo, whose litters out of Annoyance have produced several successful greyhounds, including King Death, Tullochgorum, Armstrong Gun, &c. But in her the Yorkshire strains have been almost wiped out by the introduction of a double cross of King Cob, her pedigree being as follows:—

Annoyance.
- Miss Johnson. Heart of Oak.
  - Game Chicken, by Figaro.
  - Seedling.
- Admiral.
- Miss Quick, by Tout (brother to Sam, and grandson of King Cob).

Sect. 5.—The Smooth Scotch Greyhound.

This variety is composed of more varied strains than either of those I have already described, and is really now generally more English than Scotch. Thus, if we examine the pedigrees of its most successful stallions it will be found that they almost all go back to a denizen of one or other of the English kennels. Mr. Sharpe's Monarch, the most remarkable perhaps of the old Scotch stud-dogs, is almost wholly English; and Lord

Eglinton's Waterloo was half English, being a son of Mr. De Burgh's Exotic, an importation from the south. Lord Eglinton's Rufus, also, was in great measure of Lancashire blood, being a grandson of Ball's Bugle. But Dr. Brown's dogs, Sport and Chance, were, I believe, of pure Scotch blood; and Mr. A. Graham's rough breed, though much crossed with the blood of Bugle, were otherwise entirely Scotch. All these various sorts differ with one another in many most essential particulars, and certainly they might be split up into sections quite as easily as the Newmarket, Lancashire, and Yorkshire greyhound, which resemble one another as much as the descendants of Mr. Sharpe's Monarch, Mr. A. Graham's rough breed, or Dr. Brown's Sport. But still, though differing in some points, they all partake of some characteristics in common, not the least of which is their early maturity. Puppy stakes have long been a prominent feature in the Scotch courser's card, and consequently he has bred a good deal for that purpose. Now, to ensure early maturity, there must be not only a frame which is rapidly set and furnished, but there should be a disposition to acquire tact and cleverness without much practice; of which there cannot be any great amount in the case of puppies engaged to appear in those public stakes that are run in October and November. From these causes it has resulted, that speed coming first, as it ought always to do in the estimate, early maturity and tact have next been considered in the scale; and the sire whose puppies have come out victorious in the produce-stakes, has been overwhelmed with applications for his services. These peculiarities have been very apparent in the Jasons, the Heather-jocks, and Mr. A. Graham's blood; while the descendants of Waterloo and Sport, with many others of the old Scotch blood, have not stood that test so well, and have consequently been rejected. The Jasons are particularly remarkable for early maturity in working power, often seeming to run their second or third hares as cleverly as they ever do after long experience. This is also the case with the Heather-jocks, as shown in Rufus and his sister Blackbird. Quickness and cleverness are their *forte*, together with a great degree of hardihood of constitution and power of bearing punishment, though often coupled with an uncertainty of temper, for which there is no accounting. Their power of stopping themselves, and getting away from their turns, is quite distinct from the Newmarket sweep; and though they are nearly, if not quite as fast as those dogs, they are greatly their superiors with a short-running or bad hare. With a very fast one they do not seem to me to be able to sustain so well the prolonged racing pace, either from a want of courage or of wind, or both perhaps; but when it comes to a continuance of severe work, few dogs can come up to them. The stock of Sport more nearly resembles the Yorkshire strains in every respect; while the rough breed of Mr. A. Graham must have a separate consideration. Mr. Borron has very successfully crossed the Scotch blood of Waterloo with the pure Lancashire in Bluelight, producing his celebrated litter composed of Beacon, Blackcloud, Bright Idea, and Bonfire, of which the two first became the well-known stallions of those names. From a cross of the same dog with another Waterloo bitch he also got Bright Steel, a first-class runner, but not successful at the stud.

Sect. 6.—The Rough Scotch Greyhound.

Of this breed, in its pristine purity, I know nothing; but I have seen some of the greyhounds largely crossed with the blood, and exhibiting all the roughness of the original strain. Their speed seems great, but, as far as I have been able to judge, not quite first class. It is, therefore, chiefly as a means of improving the southern breeds that it has been used, and with a considerable degree of success. All those which I have met with of this blood have been light in the loin, and apparently deficient in power there. This, however, is said to be accidental, and that the best specimens were remarkably good in that point. The characteristics of this breed are great size and good speed, with considerable working power, but some little deficiency of quickness. They are not very fast from their turns, but with a straight-backed hare they show well, and are able to lie well down, running the line of the hare, and bending with her without much apparent distress or trouble at the turns. They resemble the deerhound in external form, but differ in their power of stooping; the latter always carrying their heads high, whilst the former drop it well between their fore-legs. They are very hardy, and capable of sustaining any amount of punishment, and on that account are well calculated for crossing with the more delicate south-country breeds; but, as these are now much more accustomed to bear cold and hardships than they formerly were, the use of the rough greyhound has been a good deal superseded, and it is consequently neglected by most of

the Scotch breeders. Mr. A. Graham, however, still adheres to this cross; and an opportunity will soon be afforded again of testing its value. Mr. Ridgway has also used it lately with success, having bred a very good litter of puppies by Motley out of Holyrood, one of Mr. A. Graham's blood. In addition to these, many of the Lancashire and Cheshire breeders have adopted a somewhat similar strain in Mr. Moore's Derwentwater, who is descended from Mr. A. Graham's Gilbertfield; and in the south the celebrated Mocking-bird has been put to Mathematics, a grandson of Mr. A. Graham's rough bitch Mavourneen. The result of this cross is a very beautiful litter of large racing-like greyhounds, and if their performances are equal to their looks, they will do much for the reputation of this much neglected variety of the animal we are now considering.

Such are the varieties of the greyhound. The next thing to consider is the selection from them of the individuals to form the foundation of the breeding-stud.

CHAPTER IV.

BREEDING THE GREYHOUND.

Sect. 1.—Selection of Brood-Bitch.

Upon the proper choice of this primary and most important foundation of the stud, will in great measure depend the after-success of her progeny. Now, on what principles should the selection be made? Or, are there any such reliable principles known? To the second question I may answer decidedly, yes; and to the first I will endeavour to afford what answer I can, in the following remarks. If the returns of coursing meetings throughout England and Scotland are carefully analysed, it will be found that in very few instances will what is called private blood be successful, and that a large proportion of winners are allied to certain well-known families. Occasionally a greyhound of a pedigree unknown to fame appears as a winner, but rarely of a large stake; and if, by a great chance, such an event occurs, it will often be found that although the sire and dam may be unknown, yet their more remote progenitors are usually of winning public blood. Some remarkable exceptions to this rule might be adduced, but they are so rare as to make them exceptions of that character which prove rather than disprove a rule. Thus, rule the first may be laid down—viz., that it is desirable to select a brood-bitch of good winning blood. Next, it will be found that throughout England, Ireland, and Scotland certain breeds are more successful than others; and the published returns in the "Calendar" show that the proportion of winners to losers will serve to indicate what they are. We may, in this way, draw the following deduction as a rule, viz., that the stock of King Cob or Bugle have latterly been more victorious than any other in Great Britain; and consequently, on the principle that "like begets like," the blood, if selected in a brood-bitch, is most likely to succeed in producing winning puppies. This selection, then, is founded upon a kind of statistical calculation, and one which will, I believe, be more likely to lead to success than any other. But the young breeder may say that this information is not sufficient, since he cannot procure either of these breeds unmixed with other blood; and this is quite true; and therefore I shall proceed to show the best mode of arriving at correct conclusions as to further operations. By a more rigid examination of the returns in the "Calendar," it will be seen that these breeds have not been much or often intermixed, and that, consequently, there will not be many brood-bitches to be had combining these strains. It would, therefore, be reasonable to select either of these crosses for a brood-bitch; and I believe they will turn out very useful in that capacity. Beyond these few doubly-advantageous crosses for breeding purposes, it may be supposed that the next best plan would be to select a descendant of one or other of these dogs united with some other breed that may be best suited to the particular country which the breeder intends them for, or which may be fancied by him. Thus, he would have to select from the Newmarket, Lancashire, Yorkshire, Scotch or Wiltshire breeds for this purpose, and with perhaps very little further guide than his own fancy or prejudice. During the last few seasons there have been one or two very remarkable facts elicited in the field which may assist us in the present inquiry.

In the first place there have been a great number of superior greyhounds descended from Ball's Bugle. Two litters belonging to Mr. Borron have signalized themselves, both having his blood; one combined with that of Streamer and Waterloo, the other containing a double cross of Bugle combined with the blood of Foremost and Heather-jock. The celebrated Bedlamite litter, consisting of Ranter, Riot, and Rant, with Gipsy Royal, Gipsy Prince, and Gipsy Queen, were also out of a bitch combining the Bugle and Streamer blood; and, in addition, Habnab and Heroine were out of a bitch by Wrestler, who was of the same strain as the dam of this litter. Ptarmigan and Pantomime, again, in the north, were, by Japhet, also descended from Heather-jock and Bugle, mixed with the old Carron blood of the Duke of Gordon; and lastly, Judge, winner of the Waterloo Cup, and Sunbeam running up, were descended from Emperor and a sister to Bugle, also united with the above-mentioned Carron blood. Going back a little further, many more winners might be adduced, descended from Ball's Bugle; but the above illustrations are quite sufficient to adduce from one season's winners—Judge, Black Cloud, Bright Idea, Bonfire, Beacon, Bit of Tartan, Breast-knot, Ranter, Riot, Gipsy Royal, Gipsy Queen, and Gipsy Prince, Habnab and Heroine, Ptarmigan and Pantomime—truly an array well worth the consideration of the breeder. Again, this Carron blood seems to have been of great use, and, equally with that of Streamer, to have added what was wanting to the blood of Bugle. It appears to me that though Bugle has got many winning descendants, yet in all cases they have only been so when united with very fast blood, as in the above instances, Streamer and Carron both having possessed that quality in a high degree, as well as Heatherjock, King Cob, and Waterloo, which are also associated with him in the pedigrees of the above celebrated dogs. I should, therefore, anxiously look out for a combination of King Cob or Streamer with Bugle, and should expect it to answer all the better in proportion as it is free from an admixture with other inferior strains. My reasons for this would be, that these two are already shown to be in themselves highly desirable; and so also is Bugle proved to be when united with a fast strain. Now, both King Cob and Streamer were fast as well as their descendants, and therefore I should prefer relying upon their giving pace to the cross with Bugle rather than risk any other admixture, if I could help it. But unfortunately the time which has elapsed since Bugle lived is too great to expect such a bitch to be available; and consequently one must be accepted not entirely of his blood. Japhet I have already alluded to, and I shall now mention another Scotch greyhound of note, Mr. Campbell's Scotland Yet, a very promising descendant of Mr. Sharpe's Monarch, on both sides of her parentage, and the dam of a host of winners by Beacon, including Canaradzo, and his son King Death (both winners of the Waterloo Cup) Sea Foam, Sea Pink, Coorooran, &c. &c.

In the South, David, combining a double strain of the blood of King Cob with that of Kouli Khan and Bugle, has been the great rival of Bedlamite, for though not having got any number of greyhounds quite first-class, yet he has been the sire of quite as large a proportion of winners altogether, or, perhaps, even more, and mostly out of second class bitches. Effort, who unites the blood of King Cob with that of Cerito and Larriston, has been the cotemporary stallion of David in the South, but he has not done nearly so well, possibly from being less in-bred, for in his pedigree there will be found a succession of crosses, whereas that of David is in-bred once each to King Cob and Kouli Khan. In addition to a selection of one or other of the above strains, I should advise the young courser to choose for his brood-bitch an individual possessing as much as possible of the following qualities, viz.:—1, stoutness; 2, speed; 3, honesty; and 4, working power. It is not likely that he will be able to procure one with all the four fully developed, but where there is a choice, I should value them in the order which I have adopted above. Stoutness I believe to reside in the whole nervous system, in combination with the muscular apparatus, for no animal can be stout without a sufficient development of the muscles of locomotion—yet the possession of large muscles does not necessitate stoutness, and, indeed, the reverse is often the case. The bitch should also be in good health, without which her progeny are never likely to be of use in the coursing field. It does not follow that she should never have been amiss, and, indeed, the example of Scotland Yet would lead one to consider well before rejecting an invalid, for she was at one time almost given up for death, having been attacked with dropsy to a serious extent.

Choice of the Individual.—Having thus given, as far as I can, some few useful

guides to the young courser as to the choice of the breed which he shall fix upon, let me now say a few words upon the particular animal which is likely to be useful to him. At first sight, he may think that a great winner is necessary for his purpose, and may wait a long time in the hope of procuring such an animal. Here he would no doubt find great difficulty, for most people refuse to part with their pets, and retain them in their possession, even if they do not breed from them; but fortunately for the young breeder, it happens that the successful runner is not always the mother of winners; and indeed I much doubt whether she is as likely to become celebrated in this way as another and less fortunate scion of the same stock. Again let us have recourse to statistics, and let us see how many of the dams of our best greyhounds are, or have been, great public winners. In this way, by taking our best litters for some years back, it will be seen that they are generally out of average bitches, and often not coming up to that degree; as, for instance, Lord Eglinton's Frolic, dam of Black-cloud, &c.; Fudge, dam of Judge; Black-fly, dam of Ranter, Riot, &c.; Lucy, dam of Brighton, Cromwell, &c.; Tollwife, dam of Motley, Miss Hannah, Frolic, dam of Beacon and Black-cloud; Wanton, dam of David, &c.; all, however, of winning blood, though not themselves victorious in any high degree. Again, we have seen many extraordinary public winners produce litter after litter of inferior or middling greyhounds; and even the illustrious Mocking-bird produced no very remarkable exception to that rule. It is true that some departures from this dictum may be adduced; as, for instance, Sackcloth, out of Cinderella; Staymaker, out of Dressmaker; Lurlie, out of Landgravine; Canaradzo and his family out of Scotland Yet; Bedlamite and his family out of Bessy Bedlam, &c. &c.; but, still, by far the greater number of good winners are out of bitches comparatively unknown to fame. The young courser may therefore be satisfied with a bitch of the blood he approves of, even if she is not a winner, or at all events not to any great extent. Again, it is unnecessary that she should be in size exactly what he requires, nor even that her shape should coincide in every particular with his ideas of excellence; but by all means let him be satisfied that she is individually healthy, and likely to transmit that indispensable condition to her offspring. By a reference to the principles of breeding hereafter given, it will be found that the rule is not exactly that "like begets like," but that "like begets the likeness of itself or of one of its family;" and consequently, unless the whole family is good, there is no certainty as to the result. Thus, in addition to health, it is only necessary to take care that the family is such as you wish to perpetuate, and then to disregard the individual to a certain extent: at least to place the value of her particular good qualities, excepting health, below those of her immediate relations. Many reasons may be given why great winners are less likely to produce good offspring than their more unlucky rivals; as, for instance, the following:—First, they must have been severely tested and strained bodily and mentally, in order to arrive at success, and consequently their bodies have been rendered less fit for breeding purposes; and their mental faculties have been so highly educated as generally to lead to a degree of lurching which is too apt to be transmitted to the offspring. I am quite satisfied that the dam and sire of greyhounds ought not only to be honest, but they ought, if possible, to possess their original fire of puppyhood in an undiminished state. This, it is true, is seldom the case; but the nearer it is carried to the desired state, the more likely will the produce be to run in a true, honest, and game style. This is especially necessary in those breeds which come early to maturity, for, as they are necessarily clever by nature, they do not bear with impunity any great addition due to practice. If, therefore, the young courser can effect the purchase of a discarded little bitch of good strong frame and constitution, and belonging to a winning family of greyhounds, especially if she is of the same litter with two or three good public winners, he may content himself with the reflection that he has procured, at little cost, a brood-bitch as likely to suit his purpose as it is possible to select; and having made this choice, the next thing to be done is to decide upon the best stallion to cross her with, in order to remove her defects, and improve her excellences or beauties.

Sect. 2.—Choice of the Stallion.

Next in importance to the choice of the brood-bitch is that of the stallion to cross her with. For many reasons the bitch is first to be considered, one being that she cannot so easily be changed every year; and another, that she really impresses her nature upon the whelps more than the sire does. This is a disputed point, and I myself doubt whether in shape the sire has not more

effect than the dam; but in point of nervous temperament, as evinced by what is called stoutness and courage, I am satisfied that the preponderance is in favour of the bitch. Again, I think it is pretty clear that the whelps go back more to the blood of the grand-dam on the dam's side, than to the same ancestress on the side of the sire. So that not only is the immediate litter more affected by their dam than their sire, but their offspring also will show the same result. This, however, is very difficult of proof, and I offer it rather as an opinion founded on general observation than as proved by any facts capable of analysis. But, however, all this is foreign to the present subject, which is that of choosing the stallion for the brood-bitch already selected. Again I shall ask, are there any fixed and known principles upon which this selection should be made? I would that I could answer in the affirmative, with any strong belief in the truth of the opinion; but, alas, I am compelled to say that the more I see of breeding, the more I am convinced that we are in the dark on the subject of its mysteries. Some few guides, however, we have, but let us not delude ourselves with the idea that we have more knowledge than we can really lay claim to. The following will be found to embody all that we know on this abstruse subject which will interest the breeder:—

1.—The male and female each furnish their quota towards the original germ of the offspring; but the female over and above this nourishes it till it is born, and consequently may be supposed to have more influence upon its formation than the male.

2.—Natural conformation is transmitted by both parties as a general law, and likewise any acquired or accidental variation.

3.—In proportion to the purity of the breed will it be transmitted unchanged to the offspring. Thus, a pure Newmarket greyhound, if put to a bitch composed of Lancashire and Scotch blood, will get stock showing much more Newmarket blood than either Lancashire or Scotch.

4.—Breeding in-and-in is not injurious to the greyhound, as may be proved both from theory and practice; indeed it appears, on the contrary, to be very advantageous in many well-marked instances which have of late years appeared in public. It should, however, not be carried beyond once in and twice out as a general rule.

5.—As every greyhound is a compound animal, made up of a sire and dam, and also their sires and dams, so, unless there is much breeding in-and-in, the result is such that it is impossible to foretell with absolute certainty what particular result will be elicited.

6.—The first impregnation appears to produce some effect upon the next and subsequent ones. It is therefore necessary to take care that the effect of the cross in question is not neutralized by a prior and bad impregnation.

With these few rules, then, let us proceed to consider what particular cross will suit any of the above selections. It must be mentioned, however, that in the choice of a sire it is necessary to avoid any great and sudden change; that is to say, that it seldom answers to put a little, compact, short-working bitch to a great, loose, fast, and wide-running dog, *unless she is of a much-crossed breed, and he is the reverse*, when the result will be that the progeny will follow his mould, and very few of them will resemble the dam. If, however, they are equally cross-bred, or equally purely-bred, the progeny will be made up of incongruous materials; and instead of taking the happy medium between the two, will be made up perhaps of large, loose, and racing hind-quarters, with strong, confined, muscular, and short fore-quarters. The consequence of this is that the stride is a failure, and the animal is always over-reaching himself and falling, as is so constantly seen in the coursing field. The principle, therefore, should be to avoid too great a difference between the two, which can seldom be necessary if the bitch is well selected, and of a family as near perfection as I have pointed out to be desirable. When this is the case, a great contrast can never be necessary; and as there are many disadvantages attending upon it, it should be carefully avoided. Now, then, supposing the breeder to possess a bitch of the David breed, and he is desirous to perpetuate the kind of running peculiar to that family, I should avoid any further in-breeding, because it has already been carried to a very great extent in that blood, and I should therefore advise the selection of a stallion partaking of the same quick,* fast, and merry style of working, as seen in the stock of Canaradzo, with whose descendants I fancy the blood of David would combine well. The Judges would, no doubt, do also, for we have the examples of Imperative, and her sister Glimpse at Glory, which were out of a Judge bitch by David. It is often very difficult to obtain both dog and bitch possessing all the attributes which are desired, and where one is wanting in the bitch, it is generally the practice to

look for it in the dog. Indeed this is the usual rule in breeding, but by selecting the brood-bitch with great care it is possible to avoid the necessity. An outlay of a few pounds additional will be all that is necessary, and when this is spread over five or six years, it is not felt as it is when confined to one only. It may be regarded as a settled point in breeding for public coursing, that parsimony in any department is bad economy, and in none more than in the purchase of a brood-bitch. Every year it becomes more difficult to select any particularly good strain, because all are now so much intermixed, but first-class individuals may almost always be procured or individually belong to first-class litters.

List of Stallions.

The following is the list of stallions lately employed; and in order to make it of some use to the young courser, I have added to each a mark by which it may be valued, * indicating 1st; † 2nd; and ‡ the third, in my estimation.

Acrobat, by Curler—Lucy.‡
Belligerent, by Pugilist—Desdemona.*
Baffler, by Bedlamite—Baffle.†
Banjo, by Musician—Norah.‡
Beacon, by Bluelight—Frolic.*
Beadle of the Parish, by Brewer—Haidee.‡
Baron Garnoch, by Reuben—Maid of Saragossa, by War Eagle.‡
Bridegroom, by Judge—Bartolozzi.†
Bucephalus, by Belted Will—Luminary.†
Blackadder, by Bedlamite—Sister to Belted Will.‡
Black Dwarf, by Bedlamite—Witchcraft.‡
Bugle, by Beacon—Scotland Yet.†
Brewer, by Larriston—Hopmarket.†
Bird of Prey, by Weapon—Pantomime, by Japhet.†
Boanerges, by Canaradzo—Baffle.‡
Bold Robin Hood, by Bedlamite—Defiance.‡
Canaradzo, by Beacon—Scotland Yet.*
Cantab, by Stanley—Moneytaker (dead).†
Cardinal York, by Jacobite—Forest Queen.*
Coastguard, by David—Alboni.‡
Colchicum, by David—The Cure, by Lopez.†
Coorooran, by Beacon—Scotland Yet.†
Clansman, by Acrobat—Tela.‡
Cresswell, by Judge—Clara.‡
David, by Motley—Wanton, by Senate (dead).*
Der Freischütz, } by Blackcloud—Myrtle
Doctor Faustus, } by Wilful.†
Daring, by Baron Garnock—Venus.‡
Dalgig, by Beacon—Scotland Yet.†
Effort, by Larriston—Hopmarket, by Bedlamite.†
Errand Boy, by Blackcloud—Equity.‡
Edgar, by Cardigan—Tibbie Thornton.‡
Ewesdale, by Larriston—Meg.‡
Felix, by Sandy—Just Decision, by Judge.†
General Havelock, by Bedlamite—Young Havoc, by Wiltshire Marquis.†
Gabriel, by David—Gauzewing, by Wigan.†
Gladiator, by Pilot—Diana.‡
Gilbert, by Weapon—Gum, by Sam.‡
Ghoorkah, by Wilful—Whynot.†
Grand Master, by Clansman—Sally, by Jacobite.†
Ingomar, by Jeffrey—Ladylike.†
King David, by David—Brunette, by Curler.†
King Death, by Canaradzo—Annoyance.†
Kingwater, by Jacobite—Meg.‡
Lapidist, by David—Kissing Crust.†
Let Him be Easy, by Skyrocket—Stitch, by Staymaker.†
Lysander, by Czar—Havoc.†
Little Wonder, by David—Luanna.†
Mameluke, by Mathematics—Sister to Mildew.‡
May Morning, by Beacon—Minnehaha.†
Music Master, by Figaro—Countess.‡
Mainmast, by Messenger—Myrtle.‡
Monk of Thorney, by Ruby—Tibbie Thornton.‡
Mussulman, by Mark Tapley—Show Girl.‡
Mustard, by Manslayer—Mimosa.†
Monarch, by Mustard—Bride.†
Mechanic, by Mathematics—Mocking Bird.†
North Briton, by Acrobat—Tela.‡
Othello, by Hawk—Marionette.‡
Oakball, by Accident—Dewdrop.‡
Patent, by David—Lady Clara, by Mansoor.*
Picton, by Jacobite—Forest Queen.†
Portland, by Effort—Prairie Flower.†
Red Lion, by Blackcloud—Avon, by Ranter.†
Regan, by Barrator—Riot (dead).†
Referee, } by Judge—Riot.‡
Rhadamanthus, } by Judge—Riot.‡
Rienzi, } by Judge—Riot.‡
Romance, by Beacon—Fancy (sister to Jacobite.)†
Rowden, by Mechanic—Sister to Gossip.‡
Sea Rock, by Willow—Fanna.†
Sea Foam, by Beacon—Scotland Yet (dead).*

Seacombe, by Hermit—Fly.‡
Sea King, by Seacombe—Lady Watford, by Larriston.‡
Selby, by Barrator—Ladylike, by Baron.†
Seagull, by Bedlamite—Raven (dead).†
Skyscraper, by Skyrocket—Shame.‡
Shillelagh, by Hurkaru—Blue Bonnet.‡
Skyrocket, by Bluelight—Syncope, by Worcester Marquis (dead).*
Shooting Star, by Skyrocket—Cinderella.‡
Spencer, by Seagull—Sourocks.†
Tipsy Cake, by Master Mocking Bird—Myrtle.‡
Woodman, by Larriston—Fly.†
Wizard, The, by Bedlamite—Sister to Belted Will.†
Windermere, by Great Gable—Gum.‡

BEST CROSS FOR OTHER BREEDS.—In the previous remarks I have been supposing that the brood-bitch is of one or other of the various breeds which I have selected; but it may so happen that she is of blood foreign to them all, and my observations would not then in any way apply. But it must be recollected that I have selected the Newmarket and Yorkshire blood as possessed of the most speed, which quality they share on nearly even terms with the Scotch and Lancashire, but sullied in the last case with a want of stoutness, and in the Scotch and Yorkshire with rather too great a degree of cleverness. Hence, if speed is required, I should select these breeds in the order I have named—viz., 1st, Newmarket; 2nd, Scotch; 3rd, Yorkshire; and 4th, Lancashire; always excepting from the last the descendants of Ball's Bugle, which certainly seem to differ from any other of their countrymen in possessing great stoutness and honesty, and in communicating these qualities to other breeds when mixed with them. But supposing speed, together with working power, were wanted for crossing with a south country bitch, then I should take a combination of the Newmarket and Wiltshire, or Newmarket, Wiltshire, and Scotch; as shown in David, or his sons, Patent, Colchicum, Gabriel, or Little Wonder. If intended for Lancashire coursing, then I should select either a descendant of Judge (Cresswell, Rienzi, or Referee), or of Bluelight, including all the Beacon—Scotland Yet family, the latter lot being much to be preferred, as it is composed of superior runners; or lastly, one of the Weapons, which seem to like this ground; as for instance, Belligerent, or Pugilist. Field Marshal got a considerable number of moderately good dogs for all countries, and some almost reaching the front rank, but none quite coming up to that standard; they do not generally run the line of their hares well, and they are rather inclined to rush without maintaining that even rate of fast speed which one likes to see. No dog can be doing his best all through, if he is able to put the steam on occasionally to the extent they display; and though perhaps a dog with good tact is never thoroughly extended to the utmost, yet he ought to be doing all he can without excessive distress, and especially when at work. I have thus designated a few which may suit the owners of general bitches, without reference to the blood suiting, but solely founded on their qualities. One point, however, must be attended to, and that is, that if the bitch, whether of private or public blood, is very much in-bred, she will not receive the full benefit of a cross unless put to a dog of equally pure blood with herself. It is an established fact, that the purest-bred parent tells the most in the offspring, whether that blood be good or bad; and consequently an inferior bitch of unmixed blood will throw whelps resembling herself to a very great extent, even if put to a very superior dog, composed of blood derived from variously-crossed sources.

BULLDOG CROSS.—Breeders are greatly at variance as to the value of this cross, some supposing that it is of great service, and others, that it mars the utility of the greyhound in various ways. One thing is quite clear—viz., that it does not diminish the speed; for some of our fastest dogs of late years have been thus descended; as, for instance, Czar, Assault, Rattler, Westwind, Fancy-boy, all the Jasons, &c. My belief is, that it does not really increase this valuable quality, but that the courage being increased, there is a greater tendency to display the utmost speed of which the dog is capable. The dogs, also, are more high-couraged generally, and stand training better, which is a very important item; and they also bear the many accidents of the coursing-field with comparative disregard of their effects. But as there is seldom gold without an alloy, so these advantages are counterbalanced by a greater degree of mental cleverness than is always desirable; and as the puppy comes earlier to maturity, so he sooner becomes cunning and unfit for public contests. This cross, therefore, is unsuited for private running, or for those who do not care for puppy stakes, but reserve themselves for contests, which only occasionally come off, such as the Waterloo Cup, or other peculiarly-constituted exhibitions.

SECT. 3.—THE BEST AGE FOR BREEDING.

The bitch is, I think, at her best for breeding purposes in the third year, but many bitches have produced good litters as early as the second, and some as late as the tenth and eleventh. Mr. A. Graham's Screw, the Wiltshire bitches Seidlitz and Magic, and the dogs of the same district, Lopez and Egypt, were all out of two-year-old bitches; but the great bulk of our best dogs have been out of bitches three, four, or five years of age. In the sire, another year is perhaps required to bring him to his prime, though many of our best runners have been got by two-year-old sires, and some even at one year; as, for instance, Mr. Garrad's Locomotive; and the best litter by far ever got by Wiltshire Marquis, were by him when only two years old. At three years old a great number of stallions have got good stock; but most of our best running dogs have been the offspring of four, five, and six-year-old stallions. It will, therefore, be more safe to select dogs of that age; though sometimes there are reasons for advocating the selection of a younger one, as in the case of a very old bitch; here a young dog is thought to invigorate the worn-out properties of the dam, but I know not with what effect. For myself, even in that case I should prefer a dog in his full prime, to a younger and not yet fully-developed stallion.

SECT. 4.—BREEDING IN-AND-IN.

I have already made some few remarks upon this practice; but perhaps it will be desirable to return to the subject, as it is one which is of great importance. Like many other good practices, it has been shamefully abused, and carried to an extent which would and must assuredly end in failure. Lord Rivers was defeated in this way, and so have many other of our most prominent and at one time successful coursers. Mr. A. Graham's rule of twice in and once out is perhaps as strong an infusion of the same blood as can be safely tried, and most breeders think too strong by far. Latterly, however, the leaning has been towards this plan; and the successes of Auchinleck, Vraye Foy, and the Curler, and their stock, followed by those of Motley, Miss Hannah, and Rival, have recalled the wonderful exploits of Harriet Wilson, Hourglass, Screw, Wonder, Sparrowhawk, and Streamer. One thing is quite clear—namely, that this practice of in-breeding does not *necessarily* injure either the external form, or the stoutness, or the speed; for all the examples above quoted have a good share of those qualities. There can be no reason in nature why in-breeding should be prejudicial to the stock, because we find in many species of animals the rule usually followed, especially among gregarious animals, where the father often takes his own daughters, and even his daughters' daughters, to his harem. We know that it is a plan which succeeds well in some of the pigeons, and, therefore, while these examples can be cited in opposition to that of man, his exceptional case should be outweighed by them. At the same time, when all that is desired can be obtained in a dog of more distant blood, I confess that I should prefer him to one too closely allied to the bitch in question. This, however, is frequently not the case, and then I should boldly adopt the plan of in-breeding two consecutive crosses; but after that it becomes a ticklish operation, as I know of no recent instance in which good has resulted from carrying the plan to any greater extent.

SECT. 5.—BEST TIME OF THE YEAR FOR BREEDING.

The practice of breeding for produce or puppy-stakes has become so general, that a great deal is sacrificed to that end; and as they are run early in the autumn, it becomes of importance to obtain the puppies of good age at that time. Greyhounds take their age from the 1st of January, and therefore it is desirable to get the bitch to produce her whelps as soon after that time as possible, provided you have good dry and warm accommodation for them. Without this last precaution it is useless to attempt early rearing, as the whelps will be spoiled by the cold and wet of the winter and spring months. It is better in such a case to wait till April or May, as a well-reared late puppy is far better than a stunted and chilled early one. Bitches at eighteen months old run almost as well as at a later age, and therefore if your litter is a late one, you should choose them in preference to dogs for puppy-stakes. Puppies whelped after May, or the early part of June, can scarcely be old enough for the purpose; but they may be brought out in the spring following with good effect, though still to some disadvantage. I should therefore advise, that bitches whelping early in the year should in all cases be selected when they can be procured, and that great attention should be paid to keeping them and their whelps warm and dry; thus the latter will be able to bear the ex-

posure to the weather to the full extent which they require during the summer months, and when the winter comes on they are of good growth and strength, and may be kennelled like the other dogs. Besides these advantages, there is also this attending upon early litters—namely, that they may be entered to their game with impunity in the spring of their first year, so as to avoid the risk of doing this in the September following, at a time when the ground is hard, the weather hot, and the hares difficult to come at. It should be known that the bitch sometimes goes a few days less than her full time, and consequently it is not safe to put her to the dog before the end of the first week in November.

Sect. 6.—Management of the Brood-Bitch.

Putting to the Dog.—As soon as that most difficult point is decided on, which has been discussed in the last section and those preceding it, it must be followed up by putting the theoretical notions of the breeder into practice. In order to accomplish this, the bitch must be sent to the dog, if, as is generally the case, he is not in the same kennel with her. Now, there are two modes of sending bitches across the country, one of which is much easier and cheaper than the other, and often answers just as well. The easier plan is to procure an ordinary three-dozen wine-hamper (this size will do for any bitch under 52 lbs. in weight), and after lining the bottom with straw, to put the bitch in and fasten down the lid. An ordinary direction then completes all that is necessary to transport the package to any part of the kingdom which is reached by a railroad. In the summer, the night (being the coolest part of the twenty-four hours) is the best for this purpose, as the bitch will not then suffer so much from thirst, and she will easily bear the journey without food, if it does not last more than from twelve to eighteen hours, which time is quite sufficient to reach any part of her Majesty's dominions. The hamper should be strong and sound, for fear of her escaping and choosing a mate for herself. After she has been served, she should wait a few days, and then be returned to her owner in the same way. The usual plan is to send a man with the bitch, who sees that everything is quite right, and brings her back again after the performance is over. There are some cases when one of these plans is more suitable than the other—as, for instance, when a dog has such a very high character, as to be in great demand. Here sometimes it happens that two or more bitches are sent together, and the man in charge, rather than refuse one of them, is very apt to pass off another dog of the same blood instead of the one intended; of course, in this case, the "hampered" bitch has the worst chance, and therefore when a very popular dog is the selection, it is better to send a man upon whom dependence can be placed with her, for fear of such a result; and if it does not really happen, and the puppies do not come exactly of the expected colour, there is always a suspicion of its occurrence. I was once inclined to suspect such an unworthy deception, not from the above cause, but from a different reason altogether, the whelps being of a colour which I had little reason to expect. I therefore persuaded the owner of the bitch to see her himself put to the same dog again in the autumn for the sake of satisfying himself and me; and the result was that the puppies were exactly like the former ones, and all doubt was at an end. Coursers certainly are a most suspicious race of mortals, and are constantly fancying their rivals in the race are contriving schemes, which they would never suspect them of in any of the ordinary affairs of life. In this respect coursing is like horse-dealing, no one seems to trust his own best friend; and often, perhaps, with as much foundation for his want of confidence as in that pursuit, which every one admits is not conducive to the honourable feelings of those who indulge in it. But let the suspicion be causeless or not, there it is; and for the purpose of avoiding all occasion for doubt, it is better to adopt every precaution. There are, however, some cases where no motive can be assigned for any substitution of one dog for another—as, for instance, when a young unfashionable dog is chosen, and where the owner of the bitch is satisfied, from personal knowledge, that she will have every care taken of her. In such a case the extra expense and trouble of sending the man is so much time and money thrown away. The kennel-man of the dog will see to everything being done, *secundum artem*; but if the bitch is accompanied by your man, he should satisfy himself that the act is fully performed. Greyhounds are, many of them, quite incapable of procreation, either from being improperly managed by over-stimulating, or from being long kept in kennel and away from bitches, so as to force them into an unnatural state of continence. But, whatever is the cause, there is no doubt of the fact, that many dogs are nearly or quite

impotent; and therefore the above caution is not so unnecessary as it might at first sight appear to be. Many men use all sorts of stimulating drugs to increase this power in their dogs; but it is a most dangerous and improper plan, and one which ought never to be adopted under any circumstances.

There is a great difference of opinion as to the number of bitches which a dog is able to serve in the season, and I have often been asked the question; but I know of no mode of settling the exact line beyond which the dog should not be allowed to afford his services. As far as my own opinion goes, I do not think that a dog recovers himself *thoroughly* under three or four days, which would give two bitches a week as the *maximum* allowance. Now, as the season lasts from the 1st of November to the month of May, this would allow of fifty bitches being properly attended to; but unfortunately the bitches do not come "in season" in this regular way, but on the contrary they all come together, or in groups of two or three at one time. Besides, when a dog is likely to have a large number of bitches, he is generally priced so highly as to make him chiefly in demand during the early part of the season, for few breeders like to bestow ten guineas upon a bitch in May or June, with the full knowledge that her puppies will be too late for the produce-stakes the next year. Hence, if a dog has more than twenty bitches in the season, he is sure to have at least three or four a week occasionally, and in this way, I am satisfied, that many of these fashionable dogs are rendered unfit for their arduous duties. It is not that they do not get stock while in this high demand, for I know that large litters of puppies have been got on consecutive days, but I have seldom known a good litter thus obtained; and Mr. Gibson is distinctly of opinion that a bitch lined soon after a previous act, is likely to have only a small litter. Now, if small in numbers, how much more likely are they to be puny in strength, and deficient in activity of nervous system. From all this, therefore, I should advise, wherever the choice can be made, that a dog which is not likely to have more than a dozen or fifteen bitches should be selected in preference to one more in demand, unless the bitch requiring his services comes "in season" in November or December. At that time few are likely to be sent, or to have previously weakened the dog, and of course you are not the worse for what may be hereafter done.

DURATION OF THE PERIOD OF HEAT.—The bitch is fully three weeks "in season" altogether, and is generally said to be nine days coming on, nine days fully on, and nine days going off. This is rather a longer time than my experience would allow as the usual period, and I should fix seven or eight days as the full term of each division. The best time for the admission of the dog is towards the end of the middle period, when the bleeding which usually appears in the *vulva* of the female is beginning to subside. Sometimes this period is a very short one, and by waiting too long the bitch refuses altogether to submit, and is rendered useless for that season. It is better, therefore, to put her to the dog as soon as she will take him, for fear of this unfortunate result; and I believe that it is of very little consequence when the act takes place, so long as the bitch is fully consenting thereto, and no force is applied.

THE MANAGEMENT OF THE BITCH after her return should be of such a nature as to keep her in good health, without allowing her either to get too fat or too thin. As soon as she can safely be allowed to run at large, she should be taken out to exercise regularly every day, and until that time she should be led out for an hour daily. When a bitch can have a good run at liberty she is perhaps all the better for it; but I am quite sure that full health may be maintained by a couple of hours' exercise every day; and for the first six or seven weeks this may be with the other dogs, so as to occasion no needless trouble; after that time, however, she ought to be taken out by herself, for fear of her being knocked over or otherwise injured, or of her being tempted to jump over high gates, &c., by the example of the other dogs. She should, however, have her liberty in her exercise every day till quite the last, for if not tempted by others she will only take as much as comports with her matronly dignity. Great care should be taken as to her condition in point of flesh, for the two extremes are almost equally prejudicial. On the one hand, too high a state of flesh is mechanically adverse to parturition, and also tends to produce milk-fever after the process is completed; and on the other, too low a state of flesh is inimical to that full suckling of the whelps which insures their growth to a good size. The only guide which I can give is this—viz., that the ribs should be easily felt, loosely rolling under the hand, without being clearly visible to the eye; beyond this the condition is too high, and if the ribs are very apparent to the eye it is too low. About once a week

little castor oil should be given, unless the bowels are quite loose; but, at all events, I like a dose given a few days before the end of the nine weeks—say about the sixtieth day. This cools the bitch, and prevents any bones or other lumpy matter accumulating in the bowels and mechanically interrupting the birth of the whelps. During the last week or ten days—that is after the fiftieth day—the bitch should be separated from the other dogs, and placed in the box which she is intended to occupy during her parturition; and she should be made quite at home there, at once preventing all occasion for fright, and keeping her perfectly quiet. A boarded floor should be raised for her a few inches from the ground, and this should be protected from the wall by a boarded partition, at least six or eight inches high. If this flooring cannot easily be procured, spread a good layer of straw on the ground, and place a piece of old carpet upon that, then more straw on the top of that, which will form a good bed for the bitch. The reason of the necessity for the carpet is, that the whelps in their struggles to get at the teats of the bitch scratch all the straw away, and if the carpet is not there they lie on the bare ground, and are often seriously injured or killed by the damp and cold. But with this protection they only scratch till they get down to it, when they are unable to do more, and lie upon the warm carpet with the thick layer of straw under it. These little points may seem of no consequence, but it is by attention to them that disease is prevented; and that is a much more easy matter than removing it after it is once developed, especially in the whelp. Towards the last few days more sloppy food than usual should be given, in order to cool the body, and also to promote the secretion of milk; but it should be very gradually changed, so as not to disorder the system by too sudden an alteration from the usual diet. If, therefore, the bitch has been fed upon flesh and meal, it is only necessary to substitute a larger quantity of broth for some of the flesh, and to mix it up with the meal into a sloppy state. Where greaves and meal have been used, the addition of a little milk is the best plan, or if not, then some broth must be added, as the greaves do not mix well with slop.

MANAGEMENT DURING WHELPING.—It is seldom that the bitch requires any interference at this time, for the puppy is so small in proportion to the size of the bony passage, that nature generally effects her purpose very easily. Unless, therefore, the mother is suffering from disease, little assistance is required. The process generally lasts some hours, and there is, on the average, nearly half-an-hour between each two whelps. The bitch should not be interfered with till all is over, unless she seems very much exhausted, when a little warm brandy and water may be given; but as nature leads her to swallow a large quantity of animal matter, consisting of the secundines of each whelp, and also to digest them, food is not now required. When, however, all is over, a little lukewarm gruel made with milk, or mild broth, should be given her, and repeated after two or three hours. Nothing else but this kind of food should be allowed till the milk is fully come, which by nature would be as soon as the whelps are born, or very nearly so. Sometimes, however, in very young or very old bitches, it does not come on so very readily; while, again, in very fat and over-fed ones, milk-fever sets in, and the secretion is postponed, or entirely prevented. It is in these cases that overfeeding must be guarded against; but here prevention is much easier than cure; only take care not to have the bitch over-fed beforehand, and she will give no trouble from milk-fever, unless exposed to cold or wet. The opposite extreme of low-feeding is not felt so soon, but it leads to much more unmanageable results at the second or third week after whelping, when fits are apt to occur, accompanied with excessive emaciation, weakness, and loss of milk. Strong broths, flesh, jellies, bread and milk thickened with eggs, &c., may be tried, with even the addition of stimulants, in the shape of brandy and water, or gruel with ale in it, or sherry and eggs. A teaspoonful of aromatic spirit of ammonia may be given with the same quantity of Huxham's tincture of bark twice a day. In spite of all that can be done, it sometimes happens that these bitches continue to have fits, and to lose strength and flesh; they must in this case be taken from their puppies, and their place supplied by either hand-feeding or a foster-nurse. After this they generally rapidly recover; but unless they are very valuable, they should scarcely be tried again for the same purpose. For the first two or three days the food should be lukewarm, and the bitch should be compelled to come out for the purpose of emptying herself at least twice a day, as many mothers are so proud of their newly-acquired wealth, that they neglect themselves in their care for their whelps. More than this is not necessary, as exercise may be dispensed with for the first week, but

after that time she should be led out for an hour a day. During the whole of her suckling the bitch should be well fed upon milk, if procurable, thickened with oatmeal or flour, and at least a pound of flesh with the broth, also thickened with meal, each day. Without this quantity and quality of food the milk is not sufficiently strong and good for the whelps, and they do not reach the size which is desirable, and which indeed is necessary, in order that they may go on afterwards to that perfection of frame which is the object of the courser. A few shillings will therefore be now well disposed of in milk and other good and nutritious kinds of diet.

Sect. 7.—Management of the Whelps in the Nest.

The kennel-man should watch the whelps from the time they are born till they are two or three days old, as they often require a little assistance up to that time, especially in large litters. If it is desired that more than five or six should be kept, a foster-nurse should be obtained; but for a few days a good bitch will suckle eight or ten puppies very well. When one or two are very weakly—as often is the case with large litters—they are shouldered out by the stronger ones, and would, if left to their own efforts, speedily die of starvation; but by occasionally taking the strong ones away for a time, and leaving the others to suck, they soon are able to take their own parts, and often overtake their originally-larger and stronger brothers and sisters. At this time whelps are very readily chilled, and when they are thus seized they become purged, and soon die, emaciated to the highest degree. Six, eight, or ten drops of laudanum may be given in a little milk, two or three times a day, which generally stops the diarrhœa, or the laudanum may be united with a few grains of chalk and two grains of aromatic confection. No bitch should be allowed to suckle more than five, or, at the outside, six whelps, after the first week; and if a foster-nurse cannot be procured, it is better either to destroy all above that number, or to try and bring them up by hand.

The Foster-Nurse may be of any breed, but the bull-terrier, or any smooth bitch of good size, will answer the purpose best; a rough bitch will do quite as well if her coat is healthy, and her skin free from disease. It may generally be reckoned, that for every seven or eight pounds in weight of bitch she will rear one puppy, and thus a 21 lb. bitch will do three whelps very well. She should have a muzzle on, except when fed, till she is quite accustomed to the new whelps; and to effect this, the best plan is to take away her own whelps, and place them with the young greyhounds in a basket for a few minutes; then return all to her, and when she has become in some measure accustomed to them, take away her own progeny one by one. This deprivation, however, should not be attempted for twenty-four hours at least. Many people fancy that puppies reared by terriers, &c., are not so good as those suckled by their own dams, but I have had and known so many examples to the contrary, that I cannot for an instant doubt the propriety of adopting this foster-nurse. Mr. Borron's Black Cloud litter are good examples of this plan, having all been reared by bull-bitches, in consequence of the death of their mother in whelping. On the other hand, I have known some good specimens of rearing by hand; as, for instance, Mr. Webb's Flirt and Havoc. At the expiration of about ten or twelve days (seldom sooner), the whelps begin to open their eyes; and after this they may be fed as soon as they will take cow's milk. When it is desired to assist the bitch in this way very early, the whelp must be taught to lap, by dipping his nose in the milk, upon which he soon takes to it, and licks his lips, if he does not lap directly from the saucer. At three weeks, unless the bitch is very full of milk, they will require feeding two or three times a day, and the food at first should be milk only, then milk slightly thickened with fine wheat-flour, and towards the fifth week this food with thickened broth alternately. To make this broth, a sheep's head should be boiled to rags, then the bones picked carefully out, and the pieces of flesh broken up into very small fragments, and the whole thickened to the consistence of cream with fine white flour. Up to weaning, one of these heads will last one litter of whelps two or three days; but after that time a head is used in a single day. As soon as the whelps are able to run, they must be assisted up and down from their wooden-floored stage, if they have one, by lowering the front edge, and making it an inclined plane from the ground; the box also must be littered down with straw, and cleaned out every other day, as the whelps soon make it very dirty by their constant evacuations.

Dew-Claps are sometimes left on, at others cut off, and again by some coursers their nails only are pulled out with the teeth or a pair of pincers. The last is far

the best plan, and it should be done at about the time of the whelp first seeing, before which the nails are hardly strong enough to draw well. There seems to be very little pain given, as the whelp scarcely whimpers.

Sect. 8.—Weaning and Choosing Whelps.

The Weaning of the Whelp is the great test of the skill of the kennel-man, and very few understand it to such an extent as to avoid loss of flesh at that time. Some, however, will manage almost invariably to take them away, and keep them as fat as they should be for an indefinite period, afterwards depending of course upon accidental circumstances, but extending long beyond the effects of weaning. Generally, however, whelps become very thin, and many are irretrievably spoilt at this period. Whelps which have been very well suckled are the most difficult to wean without loss of fat; and indeed sometimes they are so unwieldy as to require some little diminution in order to bring them to a state fit for exercise. I am quite satisfied, that beyond five weeks the mother's milk is prejudicial rather than otherwise; and many whelps become thin and out of health from that cause alone. I have always found that by removing her entirely they take their food more regularly, and are not constantly on the fret for what after all is only a drop in the ocean among so many and such voracious swallows. There are three grand principles needful to successful weaning—first, warm and dry lodging; secondly, suitable quality and quantity of food; and thirdly, regularity in feeding.

The Lodging should be warm in proportion to the season, and if the weather is very severe, a stove is essential to success, not only at weaning-time, but before and afterwards. I am quite satisfied that from January to April, in frosty weather, the stove-system is of vital importance to the rearing of young whelps, and is even better than the heat of a warm stable full of horses. The fire should be lighted in the morning, and kept in all day, with good ventilation; then by damping it down at night, and closing the ventilators, sufficient heat is retained to last till next morning, when, on entering the box for the purpose of feeding and cleaning, &c., the stove may again be lighted. I have not found that young greyhounds reared in this way were afterwards more delicate and susceptible of cold; but from being more strong and well developed, they were actually more capable of resisting atmospheric changes. It is for the first two months that this artificial aid is required, after which time they generate heat enough when lying together to keep themselves warm, and by leaving the stove off they soon are prepared for facing the weather, either in their walks or elsewhere. Up to three months all puppies should be kept in a loose box, and should not be suffered to be at full liberty, as they are scarcely fit to take care of themselves till after that time. They do not get out of the wet if a storm of rain comes on, and are consequently, if exposed to the weather, at all times liable to chill. A loose box, with the upper half of the door open, especially if it admits the sun, is the best place for them; but the door should be closed in cold, windy weather, and at night in all cases.

The Quality and Quantity of Food are the grand essentials in rearing the greyhound, especially at weaning time, when all the experience and tact of the kennel-man will barely enable him to avoid errors. At this time the whelps require feeding four times a day, and their food should be composed of milk and broth, alternately thickened with meal. Up to two months fine flour only must be used, with a little oatmeal if the bowels are at all confined; but after that time a coarser meal may be substituted; the change, however, must be very gradually made, by mixing a little more each day of the coarse with the fine flour. A sheep's head will now be required every day among five or six whelps, and from a quart to three pints of good milk, which quantities will serve them till nine or ten weeks old.

Regularity of Feeding is also of the utmost importance to all young animals, and especially to the greyhound-whelp. The first meal should be at dawn, or as soon after as possible, and the last always about dusk; though in January the whelps must be fed a little later, or they will have to fast too long during the night. It is also of great consequence not to allow any one of them to overload the stomach; and if they are gross feeders, and very ravenous, those which are so should not be suffered to take more than the feeder thinks sufficient. Indeed, I am strongly of opinion that whelps should *never* be allowed quite to satiate their appetites, unless they are out of health, and require a little extra nursing; but, as a rule, they should always leave off with a readiness for more if it were given.

Sect. 9.—Choosing the Whelps.

The Weaning Time is selected for this

purpose, because up to that period they must remain with the mother; and while sucking her, the changes are often so great as to make what was at first the best, often now the worst of the litter. Most people would prefer waiting to make their selection till after the whelps are weaned, as they show their shapes better when comparatively thin, than they do when loaded with milk fat. This, however, seldom suits the purpose of the breeder, who wishes to get rid of the trouble and responsibility as soon as he can. Unless, therefore, the breeder has the pick, he will generally insist upon the choice being now made; that is, as soon as the whelps are five or six weeks old. It is quite true that the age is just as good as a later one, in all but one particular, and that consists in *the strength of constitution*, which has not yet been tested by weaning. Many delicate breeds get very fat while with their mothers, but when weaned with all the care in the world some of them will become thin, and refuse to grow and thrive. These, of course, would be rejected after weaning; and yet before that process is accomplished they are the most likely perhaps to catch the chooser's eye. In picking at weaning time, I should therefore by no means always choose the fattest, but the one which looks most hardy and firm, without, on the other hand, being wasted and thin. At this time the legs and feet are generally already sufficiently developed to enable the good judge to see what they are likely to be; and if the whelp bends his knees so far back as to stand upon nearly or quite the whole of the parts below the knee, I should certainly reject him, as he is always likely to be long and flat-toed, with weak knees. A spreading foot also shows itself by this time, and should be examined into, and rejected in favour of a close round foot. Examine also as to ruptures, which are now very evident; and though many good bitches as well as dogs have had them, they are by no means to be admired. Next, as to general shapes and sizes—many select by colour only, taking those which follow any particular ancestor in colour or marks. I cannot say that I have ever seen this guide of any use, but it is a very common practice, and certainly I have known it abused, by leading to the selection of a badly-grown whelp in preference to a much better shaped one, of a despised colour. The chooser should take the whelp up by the tail close to the root, when the shape will be well shown, as the fore-legs are then sure to be extended, and if they are well raised in front towards the ears they show a well-formed shoulder. The length of the stifles is also now beginning to be shown, and the general frame is visible, especially when held as above recommended. But nothing is more difficult and more dependent upon luck than this choice, and I have constantly known even the best judges make bad selections. When the choice is to be made after weaning, weight and size, with apparent health, ought to be very strong guides in selection; and I would never take a puny, half-starved whelp, if I could get one well weaned and healthy-looking, with at all the same frame; that is, if free from any obvious and persistent defects. At three months the choice may be made with a very good chance of selecting the one which shall turn out the *best looking* at last; but, after all, this may very likely not be the best greyhound; so that even here the affair is a perfect lottery. Still, in the long run, the best looking are the best greyhounds; and therefore they should be chosen at all ages till a trial can be had. But at three months the whelps begin to move as well as to show their forms, and this test should also be used as well as those already described. By the end of the third month the style of gallop becomes apparent, and though some short and stumpy gallopers at that time become subsequently good goers, still I should always back the free and smooth-actioned puppy at that age to turn out the best goer at a subsequent period. It is astonishing how whelps of three or four months old will gallop, and what a pace they will go; and unless the one which is examined goes in a good form between the third and fourth month, I should certainly reject him, if I had the choice of another going in a different and superior style.

Sect. 10.—Rearing the Whelps.

Home-Rearing and Walks.—Much difference of opinion exists as to the comparative merits of these two systems, and to this day there has never been any positive series of experiments made on the two modes. Most people adopt one or the other, and then argue in support of that which they have used; but the only way to settle the question, is to divide several litters, and rear part in one way and part in the other. This I have known done in some few cases, but never to such an extent as to lead to a satisfactory result. Of one thing there can be no doubt—viz., *that good dogs have been reared in each way.* If,

therefore, I were asked my opinion, I should say that, it will depend upon the degree of perfection in which either plan can be carried out. If the "walk" is a good one, the food good, and the farm free from hares and rabbits, there can be no reason why puppies may not be reared there as well as elsewhere. Again, if at home you have good accommodation and a good servant, with plenty of opportunity for exercise, then there can be no objection to your using those advantages. My own opinion is, that the home-plan, when well carried out, is free from every disadvantage, and has all the recommendations of the other in addition; whilst the constant liberty leads the puppy to be lazy, and disinclined to exercise himself as he ought to do. This, however, *may* be a disadvantage for aught I know to the contrary; as it may really not be desirable that the puppy should gallop so much while he is growing. It will not therefore do to argue upon this point as a positive good, because, as I before remarked, it may really be a positive evil. But a home-reared puppy, if neglected, is a most deplorable object; being too fat or too thin, with long toes spreading like a duck's foot, and in every way unfitted for his task. Such a dog is a standing argument against this mode of rearing, and very many such are produced every year. I have known thirty saplings and more reared together in a large building, and scarcely ever let out of it; with the only result which could be expected, of producing all bad ones. Unless, therefore, proper care is likely to be taken, by all means run the chance of the "walking" system. In this latter mode the puppy is sure of air and exercise; food, indeed, is the only essential and desirable point in which he is likely to be deficient. But in most farms the puppies are able to get to the pigs' food, and that alone, with air and exercise, is better than the best food in the world without those essentials to health. But if a good "walk" can be obtained by a little extra pay, by all means should the money be bestowed, as a shilling a week extra only makes a pound or two's difference in the cost, while it often trebles the value of the puppy. My advice, therefore, is to keep your puppies at home if you can properly do so; and failing that plan, to select as many good walks for them, of not more than two in one place; being guided in the selection by the probability of good food, good lodging, and good treatment, for nothing spoils a puppy more than harsh words and severe floggings.

Home-Rearing, from three months of age till they are old enough to be kennelled, which they may be considered to be at nine or ten months, should be effected in the following manner; indeed, if they are at "walk" they should be fed in the same way, or as near to it as possible; but they then have their full liberty, and require no one to look after them during their hours of exercise. It will be remembered that up to this age they have been fed four times a day, alternately on thickened milk and broth, the latter with the meat of the sheep's head broken up in it, and that I have advised the gradual substitution of coarse wheat-flower for the fine quality necessary in early puppyhood. By these precautions the dog-whelps ought, if of a large breed, and also of *tolerably early maturity*, to weigh at this age about 20 to 24 lbs., and the bitches 18 to 22 lbs. The after weights are as follows; though much will depend upon the quality of food, and the amount of exercise allowed, as some puppies gallop of themselves till they are as thin as red herrings:—

	Dogs.	Bitches.
	Small. Large.	Small. Large.
At three months .	20 to 24 lbs.	18 to 22 lbs.
„ four months . .	28 „ 32 „	24 „ 28 „
„ five months . .	36 „ 40 „	30 „ 34 „
„ six months . .	40 „ 50 „	34 „ 40 „
„ seven months .	45 „ 53 „	38 „ 44 „
„ eight months .	50 „ 58 „	40 „ 48 „
„ nine months. .	52 „ 62 „	42 „ 51 „
„ ten months . .	54 „ 65 „	44 „ 54 „

I have inserted in each column the weights of small and large dogs at each month, but even these vary a good deal, according to the condition and mode of rearing in each case. Thus a very fat puppy of five months will weigh more than the same dog at six or seven months of age, if he then happens to be thin from teething or any accidental cause. But supposing the puppy to be well reared and in good condition, not over fat, and to be weighed at any of the above ages, then, according to his approach to the high or low weight there named, he will reach the highest or lowest weight given at any of the subsequent months; that is to say, as an ordinary rule liable to the usual exceptions met with in all such attempts at generalization.

The Kind of Food most proper for rearing puppies is, I believe, a mixed diet of meal and flesh, with an occasional change to green vegetables, and even greaves.

Undoubtedly the best meal is a mixture of oatmeal and coarse wheat-flour; the former of the coarse Scotch kind, and the latter made from red-wheat, and ground simply without dressing. Indian-meal answers very well indeed, instead of wheat-flour; but, theoretically, it is not quite so full of strong muscle-making material. As far as my experience goes, it is quite as good practically, and I have used it very extensively, on account of the high price of wheat. The usual cost of Indian-meal is about that of barley, and consequently it is little more than half the price of wheat. The flesh should be good sound horse-flesh, selected from horses dying from accident or from short illnesses, and not full of drugs. It will keep a long time, even during the summer, if hung up in the thick part of a shady tree; and none answers the purpose so well as a hawthorn. It should be brushed over with quicklime and water every five or six days. Besides these articles, buttermilk and potatoes, milk and flour, paunches with and without their contents, and barley or oatmeal with greaves are all used by different rearers, and especially at the "walks" of the puppies. Many are never allowed to taste meat till they are trained, and then only for a few days, on the supposition that a long continuance of meat makes their flesh too hard and their pace too slow. This opinion I am satisfied is not founded on fact, and that the puppy reared as nearly as possible on the same kind of food as will best suit a child, will be most likely to exhibit pace as well as the other *desiderata* in the greyhound. In order to prepare the flesh and meal a boiler is required, and if for more than one or two dogs it should be set as a furnace. The best plan is to get a Papin's Digester, untinned, which materially diminishes the expense, and order a small pipe to be fixed on to the side near the top, so as to carry off the steam, when in ordinary use, into the nearest drain. The pipe must be of iron for a few inches, after which it may be of lead, for the convenience of bending it into the required angles. This digester may be set in brickwork like an ordinary boiler, and may be either used for boiling flesh, when the steam may be allowed to escape down the pipe into the drain, by which all annoyance to the nose is avoided; or, when boiling bones, the side-pipe may be stopped by turning a cock fixed in it, and then the usual valve of the digester comes into play. These digesters are made of all sizes, but they are generally sold tinned, and therefore they must be specially ordered, if the extra price of the tinning is objected to. In plain iron—which is also far better for the health of the dogs—they cost from 30*s.* to 2*l.* 10*s.*, or thereabouts, according to the distance from the manufactory. When the flesh has been boiled till it is quite ready to leave the bones, which requires some hours' gentle simmering, it should be taken out of the broth, and the Indian or wheat meal added by stirring it gradually in with a stick. Indian meal requires nearly an hour's boiling; wheaten-meal fifteen minutes; and oatmeal ten only. Enough of the mixed flour should be stirred in to make the stirabout when cold so thick as to be divisible with a knife without much sticking to it. In reference to the proportion of each, the rule is to give as much oatmeal as the dog will bear without becoming too loose in his motions. Some naturally costive dogs thrive on oatmeal alone, and others again will scarcely bear the smallest proportion of it, so that no rule can be given; but I have found about one-third oatmeal will generally agree with the greyhound. Some people make the meal up into balls with a little water, and boil them in the broth at the same time as the flesh; but I have never seen any advantage in this plan, and it is certainly more troublesome. As soon as the meal has boiled the proper time the fire should be withdrawn, and the whole either suffered to cool in the boiler or, which is better, it should be ladled out and cooled in thin layers, on flat tins or boards for the purpose. This, with the flesh cut up into small pieces and mixed with it, forms the ordinary diet of the puppies, according to this plan; and it is called "stirabout" and boiled flesh. The paunches are either cleaned and boiled with the meal to make stirabout (being used in the same way as the flesh in the above mode), or they are given raw and with their contents mixed with them. The latter plan answers very well, especially when the cow's paunch is obtained, and kept till tolerably dry, with the use of quicklime rubbed over it to absorb the moisture and prevent decomposition. It may then be given to the greyhounds entire, and they quickly tear it to pieces and eat it greedily, with a considerable quantity of the green half-digested food of the cow mixed with the paunch itself. Barley, or oatmeal, mixed with greaves is prepared by boiling the latter quite soft in water, after breaking them up into lumps of the size of the fist. The meal is then added as in making the stirabout.

The Relative Value of these various kinds of food is shown by the following

table, extracted from Liebig's Chemistry:—

	Materials used for making muscle, bone, &c.	Materials used in respiration, or in forming fat.
	Parts.	Parts.
Cow's milk contains	10	30
Fat mutton . „	10	27 to 45
Lean mutton . „	10	19
Lean beef . . „	10	17
Lean horse-flesh „	10	15
Hare & rabbit „	10	2 to 5
Wheat-flour . „	10	46
Oatmeal . . „	10	50
Barley-meal . „	10	57
Potatoes . . „	10	86 to 115
Rice. . . . „	10	153

It will appear from this table, that the flesh of the hare and rabbit contains an enormous proportion of muscle-making materials, and from this cause they have been used for training purposes, but not, as far as I know, with any good result. Next stands horse-flesh; and I am quite sure that when it can be procured of a healthy nature, and free from drugs, that it suits the dog's stomach remarkably well even in training. The difference, however, is so slight between it and beef or mutton, that either will do; and certainly mutton is the mildest of the three, and can be given in the largest quantity without overheating or disordering the dog's stomach. Cow's milk comes next in this quality, and is used very generally in Scotland even as an ordinary food. As far as my experience goes, it promotes flatulence and dyspepsia, and though nutritious enough, it fills and loads the stomach, and causes the wind to be thick, and the power of endurance very slight. As an article for *rearing* puppies, it is good enough, but not equal in producing a good frame to meal and flesh, as I have proved, by direct experiment. It also unfits the dog for the subsequent use of flesh for training purposes, and the change from one to the other requires a very long and careful preparation. For this reason milk-fed dogs ought not to be fed more than a week upon mutton when in training, for when reared upon milk and kept upon it afterwards, they soon fall off when put upon flesh, and their motions show by their black character how much the bilious system has been disturbed. I do not therefore wonder at those who pursue this plan of feeding being averse to the use of flesh. One of the best kinds of food for dogs at all times, but especially for puppies, is the sheep's trotter, or cow-heel; the former should by rights be scalded, and the hair and hoofs removed before boiling, which requires a good many hours; but I have known so many give them the whole mass of hair, hoofs, and bones, without injury, that I believe there is no harm in them. Puppies are the better for occasional changes of food, and thrive badly if kept upon one unvarying diet. If, therefore, the meal and flesh plan is adopted, they should once or twice a week have cabbages, or carrots, or turnips, boiled with the meal, or potatoes with the broth, instead of meal. Even an occasional change to greaves is better than always keeping to flesh of one kind; but mutton and horse-flesh, with that of young lambs or calves, will be sufficient changes without having recourse to chandler's refuse, except in default of flesh.

The Weight of Food required from three months to five is greater than would be supposed; but the growth is so rapid, that the puppy absolutely demands large supplies of nourishment. Nearly a pound of meal a day will not be too much, and in some cases fully that quantity will be used, mixed, of course, with the broth, and with a small allowance at first of flesh, cut up and added to it. The feeder should begin with about one-quarter of a pound daily, increasing it to half a pound by the fifth month, at which weight it should remain till after the teething is accomplished, when three-quarters of a pound will not be too much. This quantity may be continued till the puppies have been entered and tried.

Bones must be supplied daily for two purposes, one of which consists in mechanically cleaning the teeth, the other in affording a supply of lime for the nutrition of the young bones of the dog, and also in stimulating the secretion of saliva, which is necessary for perfect digestion. The larger the bones are the better, and a little dirt is no injury to them. The kennelman should give them on the dry grass, while he is sweeping out the kennel, and should always be at hand with the whip, to prevent quarrelling.

The Hours of Feeding should be as follows—viz., an early and a late meal, and two others during the end, till the end of the fourth month; after which, to the end of the eighth, the two middle meals may be thrown into one; and at the expiration of the eighth month, except in very large and growing dogs, two meals a day will be quite sufficient, taking care to give free access to water at all times, and to prevent the greedy

dogs from taking more than their proper shares of the food.

THE FORM OF KENNEL for home-rearing is, I think, a mere shed with a raised bench, for the whelps to run into, and for sleeping in; and, in addition, a run of forty or fifty feet in length, and eight or ten in breadth, fenced off for them from a field or garden—if possible, shaded by trees. I do not like a brick floor, such as is put in the regular kennel described at page 218, because it does not wear away the nails sufficiently; and, also, it does not harden the pads of the foot. Besides, the earth is a healthy anti-acid for the whelps to get into their stomachs, which they obtain by licking it off their coats in cleaning themselves with their tongues. I have found that common sheep-hurdles, lined with the wire-net, and having that kind of fence raised a yard above them by straining it from post to post, fixed at the end of each hurdle, answers the purpose best, as no greyhound can clear it, and by leaning it inwards they cannot jump upon it. It is the most effectual and the cheapest fence which can be put up, as no mere wooden railing will hold the puppies, their teeth soon cutting through the strongest bar, if any interstice is permitted. When grass is selected for the run, it is soon worn away; and a little gravel or sand should be laid down, to avoid mud.

THE AMOUNT OF EXERCISE required by home-reared puppies is not much more than they will take in their yard or enclosures, where they gallop up and down, and play with each other for hours together; but, in addition, they should always be let out into a large field for a quarter of an hour before each meal, as the gallop which they then take causes the bowels to relieve themselves, and they are thus kept in a healthy state. The gallop should never be allowed on a full stomach; but when empty, I am satisfied that it does great good, and hardens and braces all their joints as they are formed. A puppy reared in confinement grows, perhaps, into a fine-looking dog, but being composed of soft materials which have never been strained, he lames himself the very first time he is let out, and is a long time recovering himself from its effects. Besides this, he must again be rested, to allow time for the restoration of the inflamed joint; and thus he never can be suffered to acquire that tone of ligament and hardness of bone which are necessary to enable him to stand the shock of the course with impunity. This, therefore, is the principal object in permitting these daily gallops, which often occasion slight temporary lamenesses, but not of such a degree as to lead to permanent mischief. If puppies are reared in this way, with the daily use of a large field, and the run of a yard or strip of natural soil, especially if it is gravelled, they do not want any other exercise until they are kennelled, which should be commenced at nine or ten months, or earlier, according to the season of the year. It must be remarked here, that this open-yard system does not answer after October or the beginning of November, and then only in fine seasons; for in a cold and wet one it must be stopped as soon as weather of that kind is thoroughly established.

GENERAL TREATMENT.—During this time no brushing should be used, and the dog's natural cleanser, the tongue, is the best adapted for the purpose of keeping his body free from dirt. In all but the very hot months, plenty of clean straw should be allowed; but in the height of summer the boards must be left bare, as the dog will lie on the ground in preference to a straw bed. At this time fleas, ticks, and other vermin, are very apt to infest the dog, and may be removed by the use of soft-soap and soda, as I shall presently explain. If the tick is the kind present, some white precipitate must be rubbed into the skin, and after a few days brushed out again; but the muzzle must be kept on for some days, and the dog must not be suffered to get wet. Brimstone may be occasionally rubbed into the coats with advantage, though it does not kill any kind of vermin in a dry state, but it is licked off by the tongue, and thus forms a cooling kind of medicine for the puppy. At this time the occasional use of a dose of castor-oil and syrup of buckthorn, in equal quantities, when the puppies are a little "off their feed," will serve to restore them to their appetites and prevent further loss of health. If they are otherwise ill, they must be treated according to the directions given under the head of "Diseases of the Dog."

EVERY PUPPY SHOULD HAVE A KENNEL-NAME given him before he is many months old, and he should be accustomed to it as soon as possible, so that he may be able to know when he is rated or called back, and may come when called, &c. This is very important in saving the young greyhound from unnecessary correction, which he might otherwise incur from ignorance rather than vice.

CHAPTER V.

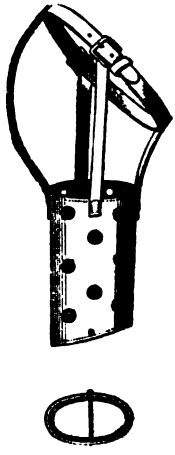
BREAKING, KENNELLING, AND ENTERING.

Sect. 1.—Breaking to Lead, Kennels, &c.

Leading is necessary for various purposes, and should be taught the puppy either during the progress of his rearing, if this is effected at home, or, if not, as soon as he is brought from his walk. Of course, in bringing him, he must have had a collar on; but it is not only necessary that the dog shall come along by force, but that he shall follow cheerfully and handily. One of the most common causes of failure arises from the awkwardness of the greyhound in the slips, and this has its origin in imperfect breaking to the leading strap. I have seen the chance of many dogs utterly destroyed by their pulling in the slips, and therefore I would strongly caution the young courser to be careful that the whole process is thoroughly effected by which handiness in the slips will be effectually secured. Now, as I before remarked, steady leading is the first part of the education, and it should be taught as follows:—The neck-strap should be the ordinary wide one, at least two inches in breadth, with the common swivel, by which it is attached to a leading-rein about five feet long; this should be buckled on tightly in a field of soft turf, and the man should then call the dog by name in an encouraging manner. Generally he begins to pull against the strap at once, and fights most resolutely, by attempting to throw himself into all sorts of forms, and biting at the strap. He should be suffered to exhaust his efforts for a few minutes, and then the man should pat him and endeavour to make him follow, which, if he still refuses, he must be steadily dragged along by the leading-strap. After a few yards he almost always gives up all resistance for a time, and follows at the heel, but soon tries another bout, and this is often followed by a fit of the sulks. The only remedy is a patient pull upon the collar, and generally in half an hour the dog follows pretty quietly; but in some cases there is a much longer and more troublesome resistance. After the dog has followed his master about the field for a short time, the collar may be removed with a few encouraging words, and another dog taken in hand; but it generally requires several lessons before the young puppy is quite perfect in leading. Indeed, he seldom is so until he has been led about four hours in the coursing field, which should always be the last lesson before he is himself entered to his game. At first, when the hare is seen, the greyhound seldom takes much notice, but when other dogs are heard whimpering, and their anxiety is witnessed, the contagion is soon conveyed to the young one, and he begins to pull at his collar and to enter keenly into the nature of the sport. This is the critical period when the good manager makes his dog handy, and the bad one confirms him in the foolish habit of pulling. All young dogs naturally pull against their straps when they see anything going on in which they are interested: and the unskilled leader pulls again; upon which the dog, in his eagerness, keeps up the strain, and leans upon his collar in a steady, dull, continued pull, which tires him a good deal, but without being of much consequence at that time. When, however, he is put in the slips, he is all anxiety to be doing, and pulls away as he has been used to do with his awkward leader; and, moreover, he tires himself at a time when it is of such consequence that he should be fresh and vigorous. In order to avoid this habit, as soon as the young dog is felt to pull, the leader should give him a sharp check, and hit him lightly on the nose, if the first is not sufficient; but by continually checking him when he begins to pull he soon leaves it off; and however eager he may be he never ventures to run the risk of the disagreeable sensation produced by checking him severely, unless a hare crosses so closely to him as to overcome his prudential feelings; and, in this case, the leader should let him pull, and run with him as the slipper does, and thus teach him to *pull steadily when the hare is actually before him, but at no other time.* This is the essential feature of the well-broken dog, and it is a point which ought never to be overlooked.

A Muzzle should also be put on occasionally, of the form shown in the next page, and should be left on even in the kennel for some hours. The reasons for this necessity are the following:—First, it may very probably be required in the kennel before training, in case any accident occurs, or

any poisonous dressing is to be applied, and then it is a bad time to begin the use of it. Secondly, many young dogs are such savage fighters or biters, as to require the muzzle always on at exercise; and when well made they can gallop and play with it



on just as freely as without it. Thirdly, in leaving the dog in a strange kennel during the week of running, a muzzle must always be left on; and also in his exercise on the day of the running, for fear of accidents, &c. The earlier the dog is accustomed to it the better.

THE AMOUNT OF EXERCISE necessary to keep young dogs in health, after they are brought into the kennel, is very considerable; and if well fed, they must have from two to three hours a day at the least. It is much better to be on foot than on horseback with young puppies, as they are very rebellious, and inclined to chase everything which will run away from them; unless, therefore, they are taken out on the open downs, and the horse is very handy, they are apt to get into enclosures and there set the horsemen at defiance. The whip should be used as sparingly as possible, but still the dog must be kept in some degree of subjection, or he will get kicked to death by running at horses, or perhaps be gored by bullocks. Cats, fowls, sheep, pigs, &c., will each in their turn be chased, and the man in charge will have his hands full, in saving the lives of the cats and fowls. If cat-killing did not lead to other mischief, it would, no doubt, be beneficial, but as it leads to wilful and malignant injuries from the owners of the cats and fowls—and very naturally so—it must be avoided by every possible means. There are some breeds which are very averse to cats, and can scarcely be broken from killing them, while others never take any notice of the feline species, and give no trouble in this way at all. The muzzle is the best remedy in confirmed cases; but it sometimes leads to the loss of an eye, from the cat scratching the dog when he attacks her without the power of killing her. Sheep are the most important, as the expense of one killed is serious; and when once the greyhound takes to this kind of amusement he can never be depended on afterwards; he must, therefore, never be allowed to chase sheep for a moment longer than can be avoided. Many people lead their greyhounds on the road as a regular practice, and loose them only when they arrive at the fields; it is, perhaps, the safest plan; but they take a great deal of good exercise on the roads when at liberty, and harden their feet thereby very considerably. Couples are dangerous things on dogs without leading them, as they often start off together; and in passing posts, &c., if they each take opposite sides at a racing pace, they damage themselves very considerably; if, therefore, *any straps* are put on, they should be all led by single leading-reins.

BATHING OR SWIMMING GREYHOUNDS I believe to be a very healthy and useful practice in the summer, as it induces them to gallop at a season of the year when otherwise they would not be much inclined that way. In hot weather greyhounds are very lazy, except in the early morning and in the cool of the evening; but after going into the water they almost always gallop about till they dry themselves, and in this way avoid the ill consequences which might otherwise ensue. On this account therefore the plan may be encouraged, and I believe it will never lead to rheumatism in the greyhound if care is taken to keep them on the move till they are thoroughly dry. Some greyhounds can never be kept out of the water, even in the depth of winter, and they are generally very hardy; but it is not a thing to be then encouraged, as they are apt to get in when you least wish it—as for instance, just before reaching home. For the last two months before training is to commence, an occasional hour or two of horse-exercise should be given, as it accustoms the dogs to that kind of work, and hardens the feet by wearing

them down on the road. This should be given about once a week or three times in a fortnight; and the distance may be gradually increased from six miles to twelve or fifteen.

No Clothing is necessary before training commences, except in standing about in the coursing-field for the purpose already described at page 211, when a good warm cloth is required in cold weather.

The Food, from the tenth month to the commencement of training, should be of such a nature as to keep the dog in high health, without over-stimulating him, or making him fat and unwieldy. After the growth is completed, and the spring-trials are over (which may be fixed at the month of March), it is not desirable to keep up quite so stimulating a diet as I have advised for the last four or five months of rearing. From a third to a half pound of flesh daily is amply sufficient, and one day in the week the dog should have nothing but a pint of thin slop. The same *kind* of food should be given as before, but in such *quantities* only as to keep his ribs just covered, and it should not be of quite so rich a *quality*. Oatmeal may be given in larger quantities than before, and a slight occasional looseness is of no consequence if there is no actual purging accompanied with an appearance of mucus. It is very important to avoid all food which shall lead to eruption of the skin, and to give only such an amount of nourishment as will sustain the health, without doing more. A certain amount of flesh is beneficial, because it must be given in training, and if the change is suddenly made it disagrees frightfully with the stomach and bowels; but when a portion is given as a regular article of diet, it may be used for many months together without leading to any bad result. From March to July inclusive, I should advise the puppies to be fed twice a day upon stirabout and a small quantity of flesh, varied as much as possible by getting horse-flesh, inferior beef, paunches, dead sheep, "slink-calves," &c. &c., at different times. These may be used four days in the week; then one day with potatoes, instead of meal; one day with greens, carrots, or turnips, mixed with the stirabout; and one day of starvation on the pint of slop will complete the round. This last banyan-day is necessary for health in all the tribe to which the dog belongs, and it will greatly add to his stock of that valuable commodity. It is better to use this diet on the Sunday, when most people give their dogs a day of rest, to which the starvation is more applicable than the fuller kinds of diet.

The Kennel for the public greyhound should be constructed in two portions, both of which should be under cover. One of these is the lodging or sleeping-room, and should have a raised bench or bed for the dogs to sleep upon. Each kennel should be made to accommodate four or five dogs, which is the very utmost number that should ever be put together. The plan already described at page 188 as suited to the private greyhound, is equally adapted for the public performer; it is intended to accommodate twelve dogs in the regular way, or eighteen at a pinch. It is divided into three compartments, which will each do for from four to six dogs. Each of them is a fac-simile of the others, and therefore a description of one will suffice.

The floor should be laid in glazed-tiles well set in cement, upon a foundation of concrete. There should be a trapped-drain in the middle of each compartment; and it is a very good plan to have a pole suspended over this for the dogs to lift their legs against. A fixed pole is often injurious, by occasioning sprains against it in play. The bed should be raised from the level of the floor about eighteen inches, as by this means all chance of damp is avoided, and the greyhound likes to be high and dry. Sometimes there is a very tyrannical dog in the kennel, and he will not allow any other to rest in peace near him, but drives him off the bed. When this is the case, the beds are better made in separate compartments, and on different sides even. Ventilation is of great consequence; and a window of the following form answers the double purpose of giving light and air. It is made to open with a hinge at the bottom, and when closed, as in *fig.* 1, it has two boarded V-shaped sides projecting into the open air at *a*. When open (*fig.* 5), it carries these sides with it into the sleeping-room, and the air is admitted at the top without any draft at the sides, which are closed by the V-shaped flaps already described. A door is required between the court and the sleeping-room, and an iron trough for water in each. Of course there must be a gate into the outer court, and the whole of the lower part of the wooden rails must be guarded with wire-netting, or wire-work in some shape. Stoves are not wanted in these kennels, because it is never desirable to use more warmth at home than can be obtained abroad; and as it is impossible to get such luxuries supplied in the boxes of inns where greyhounds are usually located,

it would never do to lodge them more warmly at home than abroad. Indeed, without stoves the difference is sufficiently great, and a cloth or two will be required to equalize the difference even then. Many dogs catch cold at the meetings, from insufficient warmth; and therefore it would not be desirable to increase the risk.

KENNEL MANAGEMENT.—The man in charge should clean out the kennels daily in the most thorough manner; and in the summer-time should wash them down every morning. In the cold weather I do not like water, but prefer sawdust, which may be kept constantly fresh, and swept out quite clean every morning. An occasional wash-down must be had recourse to, in order to make all sweet; but the greyhounds should be kept out of the kennel till it is quite dry. No bones should be suffered to remain in the kennel, or they will assuredly lead to fights, often of such a savage nature as to cause serious injury at the very time when the services of the dogs are particularly wanted; but they should be given regularly every day for half an hour or an hour, and, in fine weather, the green turf is the best place for this. At other times all but one dog may be shut in the lodging-room, and that one may be left outside by himself with his bone; and after a time another one may be let out, and the first one shut up inside. By these precautions, the needful amount of bones may be given without risk or injury.

NO PHYSIC during this time will be required, if plenty of green vegetables are given, and the dogs have access to grass; but an occasional dose of oil will do no harm. Of course all deviations from a state of health must be watched and rectified, upon principles to be hereafter described under the head of "Diseases of the Dog."

SECT. 2.—ENTERING.

The greyhound requires very little teaching, or "entering," as it is called, to his game, but readily takes to it, partly by instinct, and partly by imitation. Some dogs, however, are very late in acquiring the savage desire for blood which is essential to good running, and often go through their puppy-season without caring to kill, as was the case with the celebrated Mocking-bird, who would hardly run into her hare till the end of her first season. Many others have the same kind of good-tempered style for a time; but generally the taste for blood comes sooner or later, and the greyhound often becomes doubly savage in proportion to his late acquirement of it. It is, however, desirable that the young dog should know what he is allowed to chase, as soon as his bones and sinews are sufficiently set for the purpose. Besides, if he is to be used in puppy-stakes, he will be wanting experience more or less according to his natural abilities, before he is fit to compete in them; and as the ground is hard in the autumn, and the weather hot, he must be spared at that time as much as possible. Spring-entries, therefore, are preferred by most people, if the age of the puppies will allow of them; and I believe that ten months in the bitch, and twelve in the dog, will enable them to bear the shocks of the course with impunity. A large, loose and overgrown animal should of course be husbanded; but most dogs and bitches of those ages will, if well reared, be fit to be entered.

THE CONDITION AT THE TIME OF ENTERING TO HIS GAME should be carefully attended to, for a very fat puppy will do himself, or herself, great injury in a severe course. A little gentle physic and light feeding will however, with plenty of exercise, get the puppy fit for his trial; and I should never advise more severe training than this. All puppies gallop a good deal if they are properly reared and exercised; and if attention is paid that they are not grossly fat their wind will be good enough for a single course. They should be fed very lightly on the previous day, but not so much so as to weaken them—say, to about two-thirds of their usual feed. They may also be fed a little earlier than usual, but still in the evening—say, at five o'clock.

OLD ASSISTANTS *v.* YOUNG ONES.—This is another point of dispute, some people preferring to put their puppies down with old companions, while others dispute the propriety of this plan. My own opinion is in favour of the young greyhounds having the work all to themselves, as I am quite sure they are more discouraged at being beaten by their old assistant than when they fail to kill their hare without one. I much doubt the utility of blood to the greyhound as an encouragement, unless he himself effects the kill; and I have never seen any good done by allowing an old dog to kill a hare for a young one. But if it so happens that the young one kills, after the old one has knocked the hare about for him, much good may result; and therefore instead of selecting a *good* killer to put down with a puppy, I should, on the contrary, choose a fast dog which had not the faculty of killing, but

which would reduce the hare to the pace and powers of the puppy. This is the kind of dog wanted, and when such a one can be procured, I should certainly prefer him to any young puppy as an assistant, if one which is highly prized is intended to be brought forward, so as to be ready early in the next season. But if this kind of old dog cannot be obtained, then it is much better to put down two puppies together, taking care that both have seen enough to lead them to give chase as soon as the hare is afoot. If the dog has never been slipped at all, it is better to let him have an old assistant, as he may otherwise, when put down with one his own age, refuse to leave the slips and leave his fellow in the lurch. When a puppy sees another dog run forward in pursuit of the hare, he generally follows suit; and if he does not do anything else, he acquires a zest for the sport. But after this is once acquired, the entering should be conducted upon the above principles. Many saplings of modern breeds will run very smartly and cleverly when eleven or twelve months old, and this is especially the case with bitches, some of which run into their hares at that age with great certainty. It must be remembered, however, that March hares vary very much in their running; and therefore if a puppy commands his hare well at that time, it does not follow in all cases that the dog is good, as it may so happen that the hare is of an inferior kind, rather than that the dog is a superior animal. This mistake has often led to a bad greyhound being nursed during the summer as something very wonderful; and on the advent of October the bubble has burst by the discovery of his possessing very opposite qualities. The young courser, therefore, should never calculate upon the goodness of his sapling upon the ground that he worked and killed his hare in good style; but if he or she ran well with a known good greyhound, he may depend upon having something likely to turn out a flyer in the next autumn—barring the usual accidents to which this frail animal is subject. As soon as the sapling knows his business, and has seen three or four hares, and especially if he has made a good kill, no more should be done till the next autumn. The grand point is not so much to give the dog practice as to instil into him the zest for the sport, and to save the trouble of finding two or three extra hares in the following autumn, when they are very difficult to come at. Besides, if the greyhound is now encouraged after running his hare, he is prepared for ruing in case of his chasing sheep, poultry, &c., and thus distinguishes between the proper object of his pursuit and the forbidden subjects, for chasing which he is constantly being scolded and punished.

SECT. 3.—REMOVAL OF TICKS, FLEAS, &c.

FLEAS, TICKS, &c.—Prior to commencing training in earnest, it is necessary to remove all parasitical animals, which disturb the rest of the greyhound if permitted to continue to infest his skin. Fleas may be destroyed by soft-soap and soda rubbed into the skin in a state of solution. Equal quantities of the two should be boiled gently in enough water to make a solution of the consistence of syrup, and when this is lukewarm it should be well rubbed into the skins of the dogs, with the hand, and suffered to remain on for a day, if the weather is not very cold; and taking care to keep the dogs moving till they are quite dry. After the expiration of twenty-four hours, it should be well washed off with plenty of warm water, and the dogs well dried with a cloth, and then taken out to exercise. This not only kills the fleas and lice, if there are any, but it also cleans the skin, and is not injurious to the dog if he licks himself. It does not, however, kill the ticks, and they must have plenty of white precipitate, mixed with sulphur, rubbed in dry; using the muzzle carefully while it is applied, and keeping them out of all contact with water. After twelve hours the powder should be brushed out with a dandy-brush, and the above soft-soap solution may then be applied with advantage.

WORMS.—During the whole of the rearing, a constant watch should be kept for worms; and if present, they should be eradicated with the medicines prescribed under the head of *Worms*, in the "Diseases of the Dog." But at this time, before going into training, so constantly are they present, that I should never rest satisfied without giving the dogs a dose of worm medicine, to clear them, in case any are in existence. I believe that nineteen dogs out of twenty, at eighteen months old, have some of these parasites infesting their bowels; and as it is too late to give them strong medicines when in training, I prefer the precautionary treatment in all cases. I have known so many instances in which a dog has been obliged to be thrown by in the middle of his work for this purpose, that I am satisfied the above is the best plan. I should therefore give him a dose of areca nut, and if it brings away any worms, I should repeat it, or give the

Indian-pink, as hereafter advised, or the remedies for tape-worm, if it is present. The areca nut is the best for this purpose, as it always brings some away if there are any, but does not clear the greyhound; and it is not so injurious to the constitution as the other kinds of vermifuge. It will almost always show the presence of tape-worm, and is sufficiently to be depended on for that purpose; but it brings the joints away alive, and therefore it is only as an index to the state of the intestines that I advise its use. Whilst under these remedies the dog must be kept separate, in order that his motions may be watched, though if the others are quite firm in their *fæces*, the kennel-man will always know, if only one is in physic, what is the result of its operation. When at exercise also the dog in physic must be watched, as it is then that he is most likely to pass the worms, from the effect of his play. Whenever he has passed this ordeal satisfactorily, or if otherwise, and he has been cleansed by a regular course of worm medicines, he may be considered fit to begin his preparatory training.

CHAPTER VI.

TRAINING, AND GENERAL MANAGEMENT IN RUNNING.

Sect. 1.—General Remarks on Training.

Up to this time the *good breeder* has been chiefly in requisition; but now another official comes into play; and it does not always happen that the same person unites the qualifications for both these functions in equal proportions. Many men can breed good greyhounds without knowing anything of their treatment while in training; and, again, the reverse holds good in a still greater proportion of cases. Nothing is so simple as the rearing of the puppy, excepting during illness, if due attention is paid to his food and exercise; but few things are more difficult than the bringing out of a kennel of greyhounds, of various breeds, in a high state of perfection. The fact is, that in a dozen running dogs, even of the same blood, no two will take the same amount of work; and when of divers strains they must all be studied separately, and each must be fed and trained without any reference to his kennel-companions. It is a well-known fact, that one dog will run best while as fat as a dog *can* run, while another must be reduced to the condition of a scarecrow before his racing qualities are developed. No rule, therefore, can be laid down as to weight or work in all cases; and all that the trainer can do is to study the various constitutions which he has to treat, and, in addition, to make himself fully acquainted with the peculiar characteristics of their several breeds; that is to say, as to carrying flesh with advantage or the reverse, as to the amount of work and practice required, &c. Then, when he has once satisfied himself as to the form in which each will best appear, either by the above analogical process, or by direct experience in former instances, he will set to work to prepare his dog so as to bring him up to that standard on the day of running. Thus I will suppose, for example, that A has a dog (No. 1), twenty-five inches high, and weighing at ten months, when in good condition, sixty pounds. He knows that most dogs will run at about the same weight as they were at that age, when in good order, and therefore he would expect that his dog, under ordinary circumstances, would do so too; but, on the other hand, he also is aware, from a knowledge of the breed, that they require to be drawn very fine, and stand a vast deal of work before they are at their best; and that if they are at all fleshy they are pursy and thick-winded, having a tendency to lay on fat inside and out. This dog, therefore, he will work much more severely, and feed more lightly (with extra physic, &c.) than the rest of his kennel. Again, he has another (No. 2), of about the same size and weight, but belonging to a breed which he knows is shy of work, runs well if in flesh, requires very little practice, and is soon spoilt by over-training. This dog, therefore, he will prepare very differently to No. 1, and will, most probably, leave alone to his ordinary exercise till the second or third week before running. Some dogs of the sort similar to No. 2 will bear very little work, and if they are taken out for a few miles with a horse, they loiter behind, and when forced to work become dull, heavy, and unfit, as well as unwilling, to exert themselves. Such animals are my abhorrence, as they often run

a single course, or even two, most brilliantly, and in private lead their owners to fancy them perfection itself; but when they come to stand the ordeal of two or three severe courses, they die away, and are utterly useless. But there is a third kind which the trainer often meets with, which we will call (No. 3.) These are capable of being trained, doing good work in a cheerful manner, and being of good constitutions, and apparently all that is desired. They make their first appearance in high feather, and perhaps run and win their courses in an extraordinary style. Hope is on tiptoe, and they are considered safe to win their stakes; but on their return from their second or third courses a nail is discovered to be drawn, or a stopper slightly cut, or some other mechanical injury done, as so often happens in the coursing-field. This in No. 1 would most probably be of no importance, as, even if he went lame into slips, the first sight of the hare would take all the starch out of him; but in No. 3 the leg is held up in the air, and very often is scarcely put down when the hare goes away, but the dog gallops on three legs behind his antagonist without making an effort. This kind of dog, therefore, the trainer will know must be drawn whenever he meets with an injury; and the good judge always does so in case of his having any of that kind which will not bear punishment, either in the nature of severe courses or mechanical injuries. It is astonishing what a difference there is in this respect. One kind will be tired to death by either training-work or coursing, and yet will come out the next day as gay as larks. These are the animals which should be prized and bred from; and if they can be obtained of good pace and working-powers, they are the sort to pull through good stakes.

Dogs to be Classed.—Every trainer, therefore, should consider each of his dogs, and class them under one or other of the above three sets according to their capabilities: first, of carrying flesh; secondly, of bearing continued work; thirdly, of standing punishment, both in the shape of sharp work and also in that of accidents; and fourthly, as to the amount of practice required. Then let him make up his mind what each will require to bring him to his best. I shall therefore consider each of the above three classes separately, and describe the kind and amount of work suited to each. The only and the great difficulty is to decide upon the class to which any particular greyhound belongs.

Individual Distinctions.—But besides the difference in the breeds, there is also great variation in the tempers, dispositions, and habits of the individuals composed of those bloods, though these points will generally correspond with the breed of dog in a remarkable degree. Thus, some are almost invariably savage and surly with one another, but fondling on man, and always anxious for his approbation; others, again, are sulky brutes, and even refuse to follow their feeder with any degree of alacrity; they are always poking into queer places, and lagging behind, and do not come when called by the whistle or voice. These dogs are seldom certain runners, as they turn sulky if they cannot at once command their hares, or if they sustain any fall or other accident. On the other hand, many greyhounds are merry and good-tempered on all occasions, and give no trouble either in kennel or out. In general it will be found that dogs bear that kind of treatment to which their ancestors have been accustomed; and therefore, if your greyhounds are from a kennel where horse exercise has been largely adopted, you will find that they train well with it, and follow a horse without trouble. On the other hand, Lancashire greyhounds, where horses are not much used, seldom follow well, and do not stand that kind of work with impunity. I have always found that these particular dogs must be treated differently in this respect from either the Wiltshire or Newmarket, or most of the Scotch breeds, where horses have been used to train them for many years. Hence, no rule can be laid down in all cases, and no surprise need be felt that one man trains without the aid of a horse, while another requires two, if he can get them, to bring his charge to perfection. Again, there is a great difference in the desire for play in different breeds, and in the various individuals also; some dogs will run themselves into most excellent condition, if only suffered to play as much as they like; but, again, others are either so lazy as to refuse altogether to gallop without necessity, or else so savage as to stop the play of all (including themselves) by rushing upon the leading dog, and biting him severely. It is seldom that a playful dog can be found which will lead off in spite of these attacks, as, if fast enough to escape them for a time, he must be caught at last, and is then severely punished for his long defiance of his pursuers. The very best dogs are often thus savagely inclined; but they are very difficult to manage, as they seldom lead off, knowing that their

victims on former occasions are sure to retaliate upon them. Whenever there is this tendency to bite and rip one another in play, a muzzle should be constantly worn, of the pattern described at page 212, and as with it on the dog can drink water out of a pond or brook, by thrusting in his muzzle, and can also put his tongue out and open his mouth, it is no impediment to free exercise.

WEIGHING.—It is in my opinion a good plan to weigh all dogs before beginning to train them, which may easily be done by using a pair of steelyards and a couple of horse-girths, one of which, with a knot in it to make it shorter, is passed under the flank, and the other between the fore-legs and over the shoulder on each side; the four buckles may then be tied together, and the dog suspended from the steelyard by them. By thus weighing the dog, the food and work may be much more exactly proportioned, for it is much easier to tell by this test how fast a dog is losing or gaining flesh than by the eye, which is not capable of any nice distinction from day to day.

WATER should still be supplied in the kennel, but it should now be boiled, in order to accustom the dog to the same kind of drink when at his quarters at the meeting, where the variations of this liquid require boiling, in order to make all as nearly alike as possible.

After his feeding, the dog may be left quiet till next morning; and I do not even like the kennel to be disturbed for any purpose. If the dog is brought out, he will generally empty himself, but he is far better with his food in him, than that it should pass on before he has fully extracted the nourishment from it. I am satisfied that the dog, if fed once a day, should never be disturbed after his meal till the next morning; but if fed twice a day, as is the practice in some kennels, he may of course be brought out, to prepare him for the reception of his second meal.

CLOTHING AT EXERCISE is used by some people, in order to reduce the weight of the dog, and I am bound to admit that I have lately seen a fast kennel of dogs trained in this way. Their condition was not perfection, certainly, as they seemed deficient in stoutness, but they were not rendered slow by the clothing which they carried, as is generally supposed to be the result of that practice. On the other hand, I have certainly seen it attended by "the slows" in other hands, and I cannot fancy that the practice is a good one. The dog does not sweat by his skin, and the only way in which the clothing acts is by its weight increasing the work he has to do, and by its warmth causing the tongue to throw off its fluid by evaporation somewhat more rapidly than usual. In the kennel I speak of the dogs are accustomed to be slipped a distance of nearly a mile with one, two, or three cloths on, according to the desired effect to be produced. Their training is very short, and they are seldom at work more than a fortnight or three weeks. This plan is said to supersede the necessity to a great extent of physic and starvation; but, as I never tried it, I cannot speak from actual observation.

SECT. 2.—VARIETY NO. 1.

DOGS OF THE SAME CHARACTER AS NO. 1 should have at least five or six weeks' preparation before they are fit to run; that is, if they are to be tried in private before they are exhibited in public. Most people like to know which are their best dogs, and to do this they must get them fit at least three weeks before the public contest. Now I am quite satisfied that it is impossible to do justice to a dog of this character, and to get him into anything like his best form in less than three weeks; and in order that this time shall suffice, he must already have been regularly exercised two or three hours a day, with an occasional journey following a horse. Under this treatment he will be half fit to run, and with many dogs like No. 2, it is nearly all that can be done; but No. 1, and such as he, can be brought out in a much better form by attending to the following directions, which, I again repeat, are utterly injurious to No. 2. The dog thus prepared by regular exercise on foot, and also following a horse, and having had his doses of worm medicine, should have, as a final dose, a ball composed of the following ingredients:—Take of

Powdered jalap, ten grains.
Barbadoes aloes, one drachm.
Ginger, five grains.
Oil of aniseed, three drops.

Mix, and make into a ball. This is the dose for a large, strong dog, and will clear him out, and render him cool and yet lively, and fit for anything.

THE FIRST DAY'S WORK should begin the day after this ball has worked itself off, with the aid of good slops, &c., when the dog may be taken out with an assistant, who should be a stranger to him, for the purpose of holding him while the trainer gets to a distance from him. Before this is done the dogs should be allowed to play about for an hour and a half; keeping them

on the move by walking, in order to prevent the idle ones from lying down. After the expiration of this time the assistant should take up all the dogs to be slipped, or as many as he can hold, and running the loops of their leading-reins through a stirrup-leather, he should buckle it round his waist. Here, again, a muzzle is often required, as I have known dogs fall upon the boy holding them and bite him severely; whilst he could not release himself from them, on account of their refusing to let him unbuckle their neck-straps. When the trainer has left them a sufficient distance behind, the assistant should, as soon as he hears the whistle, begin to loose one after another, in the order already fixed by the trainer; who directs the one he thinks most likely to run quickly to him to be first loosed, and the others, according to their degrees of perfection, in this very useful particular. Some dogs are very careless and independent, especially farm-reared dogs which have been accustomed to their liberty; while, on the other hand, kennel-reared dogs are uneasy unless they are with their breeder and rearer. An interval of a few seconds should intervene between each liberation, as the first dog ought scarcely to be overtaken by the second till he reaches his master, and the same with the others. The hindmost dogs exert themselves more than the leaders, because they have a double stimulus; and hence the most free should be first loosed, and the lazy ones kept back; indeed, an idle dog will hardly train in this way without one of another disposition to lead him; and even then, if he has the chance, he will stop his leader by biting him or knocking him over. The best place for a slip of this kind is an open valley, with a gradual descent on the one side, and rise on the other. Here the assistant should remain on the hill on one side, and the trainer pass over to the other, where he is conspicuously seen and his whistle easily heard. When the trainer is anxious to give a long slip, and his space is rather limited, it answers very well for him to be on a horse or pony, and to gallop off still further as soon as he has given the whistle, and the leading dog is in good view. Sometimes half or three-quarters of a mile can thus be made available for training purposes, especially on open downs of an undulating character. One or two slips of this length will generally suffice for the first day, then walk them about for another hour and take them home. This kind of training should always be upon the same kind of ground as that over which the public courses will take place. Thus for down-courses the slips should be over hilly turf; for enclosed arable land, over fields of the same character; and for marshy land with ditches, over that species of ground.

Dressing and Friction.—After arriving at the kennel, the feet and legs should be washed and dried if dirty, and also the under parts of the body, if they require it; but if this is done, the greyhound should be rubbed till dry with a cloth. After this the whole body should be well frictioned with the horse-hair glove, of a coarser and cheaper kind than Dinneford's, now made at 2*s.* 6*d.* per pair. Laurence's glove, which is made on the same principle as a brush, that is to say, with the ends of the hair cut and turned outwards, is better than either, and is to be purchased at prices varying from 5*s.* to 7*s.* 6*d.* per glove. This rubbing should be chiefly over the muscles of the thighs, *sides* of the back, shoulders, and fore-legs, avoiding the upper surface of the back very carefully, which should never be strongly rubbed. In doing this kind of work the trainer should stride over the dog, and first face his hind-quarter while that part is being rubbed, and then turn round and look towards his head, using his two hands on corresponding parts of the animal's body at the same time.

Feeding.—When all have had their dressing, they may have a bone apiece, which will amuse them for awhile, and at about three or four o'clock they should be fed. Most trainers feed at one o'clock, because that is the usual hour of feeding when the dogs are to run the next day; but I think a somewhat later period is more convenient for all purposes, and the dogs rest better during the night in the usual way. The slight acceleration of their feeding time on the day before running is of no consequence, especially as the meal is generally lighter than usual. For dogs of the kind I am now considering (No. 1), the feeding must be lighter than for more delicate sorts; and I think that the only rule is to take off from a quarter to half a pound of their usual allowance, making the alteration chiefly in the meal, but partly in the flesh. Most people give their dogs in training bread instead of stirabout, and jelly made from cow-heel and sheep's trotters, the mode of making each of which I shall give hereafter in this chapter; but whatever the diet, it must be scanty in quantity, but good in quality, and of such an amount as gradually, in conjunction with the work, to get the dog to the weight which the

trainer has fixed upon as his object to be attained.

HORSE-EXERCISE.—On the next day a horse should be provided, and the trainer should take the dogs out for at least two and a half to three hours, keeping on the turf as much as possible, and never going beyond a gentle trot on the roads, if he can any how obtain sufficient turf. I should not give more than half a mile twice over of galloping on this day, but should keep up a succession of trots and walks of two or three miles each during the time. This will give eight miles of walking, occupying two hours; six miles trotting, three-quarters of an hour; and one mile at twice of galloping, making up nearly three hours altogether, and fifteen miles in distance. This distance is not too much at this pace, to begin with; and after the return home the dogs may be cleaned, dressed, and fed, as on the previous day. At this time the feet often are rather sore, and if so, they should be bathed in warm alum-water, then carefully dried, and afterwards rubbed over with pitch-ointment. The trainer should be very careful not to wear the soles of the pads too thin, as it takes some time to restore their soundness, if the horny matter is actually removed by the formation of a blister.

ON THE THIRD DAY, instead of one or two slips, three or four may be given, according to circumstances, and the amount of work which the trainer thinks each particular dog will bear; but, whether he has them slipped once, twice, or thrice, he should at all events keep them out for three hours, and walk them steadily, and as much as possible upon turf, where they may play as they go along as much as they please. Some dogs are playful whether at work or not; but in the majority, when they are in good work, they cease to be very playful among themselves, though still ready for mischief, and full of life and animation on returning to kennel. On all occasions after the day's work, the frictioning must be had recourse to, and the feeding as usual.

ON THE FOURTH DAY the horse may be again put into requisition, increasing the pace a little, but not yet venturing upon a greater distance.

SUBSEQUENT PROGRESS.—Thus alternately using the slipping system and the horse-exercise, at the end of the first week the dogs must be carefully weighed, and the trainer must then conclude whether he is doing enough to get them to their proper weight and condition by the time upon which he has fixed. It will generally be found that half a pound a day is the utmost which can safely be got off without physic—that is to say, in a hardy dog of the class now under consideration. If, therefore, at the end of this week a reduction of 3 lbs. has not been made, it will be necessary to give physic of a more reducing nature than the jalap and aloes; Epsom salts will generally answer the purpose with least injury, and they may be given in doses varying from half an ounce to an ounce, dissolved in a teacup of warm water, with a little cream of tarter and grated ginger. This dose may be given every third morning fasting, during the second week of training, but very few dogs require more than one dose a week. It is far better to *diminish* the supplies than to *remove* them by this severe kind of purgation. If the dose is given, the day of rest is chosen, and it is worked off with slops. A very small quantity of food, about five or six ounces, is to be given at night, as the dog, if left quite empty after his clearing out, will be too weak on the next day to stand his usual work. He must now go through a repetition of the same kind of alternate horse-exercise and slipping which I before described, and it will generally be found that he will bear his work during this week better than on the previous one, though he will perhaps lose quite as much flesh; but he will be more ready to follow the trainer, and less sore-footed and stiff than he was before. During this time, and towards the end of the second week of training, many dogs will bear cheerfully and well an amount of exercise which to some is quite incredible, and from twenty to twenty-five miles are often run over on the horse-exercise days without the least fatigue more than sufficient to make the dogs enjoy their beds. For dogs of stout blood, I should say the average is nearly twenty miles, with from two to three spirts of a mile or two on the gallop during that distance. The great difficulty is to get all the dogs to follow well, and some, though capable of bearing a great deal of work, are so lazy as to require to be led. The trainer should always take a leading-string of common broad tape, and when he finds any dog obstinately lag behind, he should dismount, and put a collar on him to which the tape is attached. In this way a dog may be compelled to move himself at whatever pace the trainer proposes, and even at a fast gallop he soon learns to follow handily and without pulling. This is preferable to using the whip in the hands of a

man who is to follow behind, as the dogs naturally cower with the lash at their backs, and will not go on cheerfully in the way which they ought to do. When the dogs have thus, by steady and long-continued work, varied by occasional gallops and slips, been brought at the end of the second week to a high state of efficiency, in point of wind and capability of bearing fatigue, they may be weighed again, and should be a little under the weight at which they are supposed to be the best capable of running. If this is the case no physic need be given on the second Sunday, but a rest-day, with slops only, will answer all the purpose. On the Monday, Tuesday, and Wednesday, the exercise should be nearly, but not quite, so severe as on the previous week; and on the three last days of the third week they may be kept to walking exercise on the turf, with a single short slip each day, of only a quarter of a mile, feeding, frictioning, &c., the same as before; and on the first day of the fourth week the dogs are fit for their trials, and may indeed be considered fit to run.

Sect. 3.—Variety No. 2.

The Dog No. 2, and those of the same character, will require a very different treatment from the above, for, as I before remarked, they are incapable of bearing the same amount of work, and become dull and heavy, instead of continuing lively and fit for anything. Such dogs are often very fast for a short distance, and sometimes are so clever with it as to run little risk with ordinary hares of being distressed. But with such hares as we sometimes see in Wiltshire, Berkshire, and Scotland, they are so punished and distressed as to lose all chance of the stake for which they are entered. Nevertheless, some coursers adhere to this style of dog, and as he is often a merry, playful, and good-tempered animal, he will thus run himself into as good condition, or nearly so, as the art of man can effect. Horse-exercise to any extent is very injurious; and as he is generally fond of his trainer, and inclined to follow him, he will be more likely to be over-trained, with his small amount of exercise, than the more lazy dog No. 1 would be with double or treble the work. I need scarcely say that there are various shades and degrees intervening between these two types, and that the treatment in consequence must be modified accordingly.

The Amount of Work necessary for this class will be very little more than that which they themselves take, if at all playful. The weight must seldom be reduced by this means, but by physic and reduction of food. In most cases they lose flesh rapidly, and I have known six pounds got off a small bitch in four days, without destroying her form. This was done by strong physic and very little more than walking exercise. Two hours and a half of walking exercise should be given these dogs, and they should be suffered to play during that time, which if they do fully, very little more will be necessary. Three times a week they should be slipped about half a mile from their trainer, as described at page 219; but not more than once or twice at farthest. This will amply suffice for the worst and softest of these dogs; but, as I said before, according to the degree of this bad quality must the two kinds of training be combined. The trainer should always recollect that *courage* and *stoutness* are quite separate and distinct from one another, and that a very high-couraged dog may be very deficient in stoutness, and in that wiriness of frame and tenacity of life which enable some to bear injuries with impunity. The high-couraged dog will bear them, as far as the pain is concerned, but on the next day he will be completely *hors de combat*, in consequence of the inflammation following them, and its effect upon his nervous system. All this must be considered by the trainer, as upon his dog's possession or otherwise of these qualities must his treatment, both in training and in running, be founded.

The Quantity of Physic necessary for No. 2 will vary very considerably, in accordance with the degree of flesh which he carries. Some of these dogs, if drawn fine, will not run a yard, and require very little to be got off from their usual weight. A dose or two of aloes and jalap must almost always be given, as dogs are so naturally inclined to take purgatives, that they are never long in their highest form without one. These dogs may, therefore, generally have a ball, as prescribed at page 218, once a week; but they should have nothing but walking exercise on the following day.

Their food should be in larger quantity than the amount ordered for No. 1, and it should be about four-fifths of their usual allowance, if they are not very high in flesh when training is commenced. About a fortnight is ample, with two balls, for the purpose of preparing them for their private

trials, and no more need be done with them than I have already advised, as to work, food, and physic.

THE FRICTIONING, WATER, &c., for these dogs should be as advised for No. 1. The feet will seldom require attention to prevent chafing or blistering; but sometimes their claws are too long, and then they should be reduced by the nail-nippers.

SECT. 4.—VARIETY No. 3.

THE THIRD KIND OF DOG which has been alluded to must be trained according to one or other of the above modifications, according as he is able to bear work, or otherwise; and his peculiarities do not come into play until he is exhibited in public, in describing which I shall again return to his mode of treatment.

SECT. 5.—MANAGEMENT OF THE BITCH "IN SEASON."

Her treatment, if intended to run again, should be either the natural one of allowing her to breed, without reference to the puppies, or the artificial plan of bleeding and physicking her. It appears to me that there is a great deal of risk in both modes; as, on the one hand, the treatment in the latter case is calculated to reduce the strength of the bitch; and on the other, the breeding system often fails, from the large number of whelps which the bitch sometimes brings forth. If it was possible to limit the number of these to four or five, I believe that it would be by far the better plan to allow the bitch to indulge her natural propensity; but as this is not practicable, I think perhaps the balance is in favour of the bleeding and physicking. Many bitches have run well after breeding, and some only a few months subsequently; as, for instance, Mr. Temple's Titania, and in the last season, Mr. Laurence's Lufra; but, nevertheless, it has ruined others, who have never recovered their maiden form. By bleeding and physicking, the change which would otherwise take place in the constitution appears to be checked; there is not the same tendency to form fat, and the spirits and general health are more rapidly recruited. In this way I have known a bitch run well within eight or ten weeks of her being in season; whereas, either by simply putting her by, or by breeding from her, at least fourteen weeks must elapse before she is fit to run.

SECT. 6.—PRIVATE TRIALS.

The immediate preparation for the private trial should be, as nearly as may be, the same as for running in public, to which I beg my readers to refer. No mistake is greater than to try the greyhound in a different form to that which he will appear in hereafter, for it by no means follows that because he runs badly when fat, he will do the same when prepared. On the other hand, if he runs badly in private, after a severe preparation, and it is still determined to start him, the only plan is to try what rest and light work will effect. Sometimes a dog may be tried when drawn fine, and be found to run very badly; after a week's comparative rest, he may show a very different form; and if he pleases his master in every respect, the trainer should endeavour to bring him out at that weight, and in every way in the same state of condition as to work, food, &c. &c. If not quite satisfactory, another week may be suffered to elapse, and if there is such an improvement as to lead to the idea that he is quite up to his highest point, then that particular state should be fixed upon. All these delicate shades require a master-hand to decide, as it is often very difficult in private to test a dog's running very satisfactorily, on account of the difficulty of procuring good hares on ground good enough without being too severe. When this can be procured, it often leads to the other extreme; and the courser is never satisfied till he has taken all the running out of his dogs.

THE NUMBER OF COURSES which a puppy should have, by way of learning his business, depends so much upon his form and breed, that no rule can be given. The courser will naturally select the small and early dogs and the bitches in preference to large and awkward and over-grown dogs. Generally, with these forward dogs and bitches, a very few courses will make them handy enough with their game; but so much depends upon breed, that no rule can be given. Much also depends upon what has been done in the spring; but no dog should be suffered to appear in public till he is quite *au fait*; that is to say, he should have had practice enough to know what he is about, and to be aware of the various devices of the hare, in the shape of short turns, wrenches, &c. Sometimes a puppy has been accustomed to short-running hares, which come back in almost all cases, and he will be sadly puzzled with a strong hare which refuses to be brought back by all the exertions he can make. Such a dog often resigns his task after two or three efforts, while the one which is accustomed to that variety of hare perseveres as long as he has

any wind or strength left. On the other hand, a puppy accustomed to fast hares is all abroad with a short-running and bad hare, and will over-run himself at his turns, without attempting to come round, because he is wholly unprepared for their peculiarity of style. But, over and above this education of the puppy, there is the trial with another of the same age, or more often with a known good greyhound of the previous year. This should be merely a test of speed and of comparative working power, as the practised greyhound almost always outworks the puppy at this time of the year. But the experienced hand can draw a line, and will probably remember how that particular greyhound ran at the same age in her trial with an older competitor. All these calculations must be made on the supposition that both dogs are fit to run, for it will not do to try the puppy with an unprepared aged dog even if he was ever so good during the previous season. Here no line could be drawn, as the unwieldy old one could or ought to be easily beaten by his more fit competitor. Not more than two courses a day should often be run in private, unless they are very short and inconclusive. If the first is of moderate length, it is better to wait for another day, than to risk injury by a second course.

THE RESULTS OF THE PRIVATE TRIAL are often very melancholy, from the breeder being disappointed in his expectations. Nothing is so trying as to see a high-bred greyhound exhibit want of pace, or want of courage; or of any other of the essential qualities of the first-class dog. Such, however, is too often the case, and therefore the young courser must not be discouraged if such a lot falls upon him in common with his older and more experienced rivals. When we see coursers of good judgment, and of forty years' standing, fail in their attempts, and often for a series of years, it leads one to suppose that luck has a great deal to do with success. Nevertheless, in the long run, care and judgment will be served; and though it cannot with certainty be predicted that any particular litter shall turn out well, yet it is very remarkable that some men who only rear one litter a year will almost always produce some good dogs out of each litter. If the puppy shows awkwardness, there is great hope of his still turning out well, and even if he runs a little slack, he may *perhaps* come off thus; but lurching is a trick which ought to condemn him at once, as the cunning puppy in private is sure to exhibit this propensity still more strongly when running his third or fourth course in a stake. Such, therefore, should be at once condemned to a watery grave. Wild and headstrong running is often the precursor of the best style; but such dogs require a good deal of practice, and should even see a hare within a few days of their public performance. When the kennel is large enough to admit of running the risk, I think a trial on the third or fourth day before the stake is commenced will always do good, especially in Wiltshire or any other severe country, as it is impossible to extend the greyhound to the same wiry degree by any other means. His wind therefore is perfected, and he is also practised in turning, which brings very different muscles into play to those which are used in straightforward galloping. But if the kennel is only composed of such a number of dogs as are wanted in public, it is dangerous to put them down to run a course nearer than ten days from the time of the meeting in which they are to be engaged. The annexed sketch of the private trial between Mr. Randell's Rival and Ranter, shows the awkwardness of the puppy, which afterwards turned out to be "a clipper," and the difficulty of getting a satisfactory slip in the early part of the season. The scene is Croome park, near his own house.

SECT. 7.—TREATMENT AFTER THE TRIAL.

This should be of a quieting and cooling description. A ball of the aloes, &c., should be given, or if the dog is very lusty, the salts, &c., as advised in page 220. After this has operated, but not till the following day, give a meal of potatoes mixed with the bread, or a very few greens, in order to freshen up the stomach, and prepare it for its final effort. If the dog has not been long accustomed to flesh, he will often train-off at this time, if that kind of food is continued, and therefore he should be for some four or five days without it, using only jelly, with a little broth to flavour the meals; but if he has been reared upon the principles advocated by myself he will bear its continuance well, by using the precaution to give the vegetable diet above-mentioned. With these remarks, I shall proceed in the next chapter to the final preparation for running, and to that ordeal itself.

CHAPTER VII.

TRAINING, FINAL PREPARATION, AND RUNNING.

Sect. 1.—Final Preparation.

The Two First Classes I have already alluded to as requiring very different training; and the third will hereafter be found to demand greater care than usual at the time of running. There are also various states of constitution which interfere with training, such as the effects of the "heat" of the bitch, excessive grossness of constitution, aggravated by long rest, &c. &c., which must be met by appropriate treatment; but the ordinary greyhound, irrespective of these accidental complications, must be treated on some modification of the two types described in the last chapter, and by that mode will have been brought up to such a mark as to enable his master to try him with some chance of judging of his powers. I have already remarked, that at this time the trainer not only comes to a conclusion as to his actual capabilities when quite fit, but also as to his present "form;" that is to say, he judges whether he is too much or too little worked, and also whether he is too light or too heavy. Having, however, settled all this to his satisfaction, and finished his trials, he has let his dog down for a few days, as shown in page 228; and the next thing is to bring his recently-gained experience as to all the capacities of the dog to a practical result, by concluding his training during the interval of a fortnight or three weeks before the meeting at which he is to run, and till then he may alter his plans according to his experience gained.

Both the Dogs Nos. 1 and 2 will again require exactly the same routine of exercise, feeding, frictioning, &c., as before, unless the trainer, from the running in these trials, sees reason to vary it. He should give them severe work, and proportionally light food during the first week, and then gradually diminish the former, and increase the latter, up to the fourth day before the day of running. During this time the dogs should have been kept almost entirely off the road, so that the horny covering of the sole of the foot may have had time to grow, and thus often save it from the sharp edges of flints which abound in some countries, and easily penetrate a thin, worn-out sole. On the fourth night before running, I should advise a mild aperient, believing that it does not weaken the dog, but, on the other hand, it freshens his stomach, improves his wind, and makes him lively and full of energy. Some coursers at this time give an emetic, and I have known very good results follow its use, where the liver is sluggish, or the dog is what is called "bilious;" but otherwise, I think the simple aperient ball (page 218), or a dose of castor-oil, will answer the purpose better. From this time the same management will suit both kinds of dogs, to which, on the third day before running, walking exercise only should be given for at least four hours, feeding as before. On the second day, the same amount of walking exercise, with one or two slips of half a mile each. At this time the dogs similar to No. 1 are generally recovering fast from their severe work, and are, or ought to be, as well as No. 2, very fresh and full of play, which they should all be indulged in, using the muzzle if they are inclined to be spiteful. On the day before the final struggle, the dogs should be walked out for three hours, with a single slip of half a mile, to open their pipes; then home and well frictioned; and afterwards fed at one o'clock, on not more than three-quarters of a pound of mutton toasted before the fire, and, after being cut up, mixed with the same quantity of bread, soaked in melted jelly. The dogs may then rest till the next morning, though many trainers take them out for a short walk in the evening; but I do not believe it is a good plan, unless they are intended to be lightly fed before running the next day. The following receipts and rules will conclude this part of the subject.

For making Bread without Barm, which sometimes agrees with the stomach better than bread made with it—take of

Flour, 12 lbs.
Bicarbonate of soda, 2 oz.

Mix them well together with the hands; then take of

Muriatic acid, 2 oz.
Water, 8 pints.

Mix well together, and then stir the acidulated water quickly into the flour with a large wooden spoon. The dough thus formed should be quickly put into common earthen flour-pots, filling them about two-thirds full, and baked without delay, in a quick oven, *rather hotter than for common*

bread. The flour may be of wheat alone, or mixed with oatmeal, according to the habit of the dog.

To MAKE JELLY FOR TRAINING.—Procure four cow-heels, *unboiled*, and two-score of sheep's-trotters, scald them, and scrape off the hair and hoofs. Then put them in a digester, and boil gently till they tumble to pieces, covering them with such a quantity of water as will just serve to float them. After they are quite tender, let the whole cool, then pull them to pieces and take out the bones, after which they should be again gently simmered for an hour, adding a little more water. The whole is then put by, and forms a thick jelly, which in the winter will keep four or five days; but in October and March will often become sour in 36 or 48 hours.

VARIOUS MODES OF DRESSING THE MEAT:

1.—HORSE-FLESH is usually boiled, but if sound and of good quality, it makes good steaks, even in training, and should be toasted before the fire, or fried in the ordinary way, or grilled on a gridiron.

2.—BEEF is best toasted, or fried, or broiled, and it should be well beaten with a rolling-pin before being dressed, in order to insure its tenderness. Horse-flesh is usually much more short and tender, and when good, is superior to beef in all respects. The fat should be removed from both.

3.—MUTTON is certainly the best kind of animal food for training purposes. The part used should be the leg, which is the only joint from which a solid mass can be obtained free from fat. It may be broiled or toasted in the usual way. The reason for the preference of these modes to boiling is, that as dogs are seldom indulged in them, from their being more troublesome, they are relished better, and appear to give tone to the stomach. Boiled meat, with the broth, is quite as nourishing as when broiled or toasted, but it is not convenient to give the broth in the latter days of training, as the bread is soaked in jelly instead; and, as the boiled flesh alone is not good, the above modes are to be preferred.

4.—Either of the above should be chopped into fine pieces, and put into a saucepan, with sufficient *boiling* water to cover them. Then set on the fire and just boil up, carefully stirring, to prevent burning.

SHORT RULES FOR TRAINING:—

1.—Give no more physic than just enough to freshen the stomach, unless it is wanted as a means of reduction.

2.—When used in this way, try mild physic before giving stronger.

3.—Give as little bread as will suffice for health. The quantity may be known by the colour of the fæces, which ought to continue of a good gingerbread colour, and which become black, or nearly so, when the flesh is overdone.

4.—Reduce the dog more by increase of work and reduction of food, than by physic.

5.—Give as much horse-exercise as the stoutness of the dog will enable him to bear, without over-doing him.

6.—Use plenty of friction.

SECT. 2.—TRAVELLING.

RAILWAYS afford great facilities to the courser, and the dogs may now be conveyed two hundred miles more easily than they could be travelled forty on the road before the present system came into vogue. If possible, the trainer should have his greyhounds with him in the railway carriage, as they are much more nervous and excited when removed from his presence. In most cases a second or third-class compartment may be obtained for the trainer and dogs; but if not, the luggage-van is better than the boxes in which dogs are ordered to be placed in most of the lines. A horse-box may generally be procured by giving notice, if there are enough dogs to occupy it, and nothing can be better than this. It is astonishing what a difference is made by attention to these trifling particulars. Most people prefer arriving at the place of meeting some time before the day of running—that is, ten days or a fortnight; and I think, if it is a healthy place, and there is good training-ground near, that is the best plan; but if ten days cannot be given up, it is better to allow only one clear day's rest, as dogs often get more unsettled after a week than they are at the end of two days, and consequently they begin their contest at the worst, instead of being at their best. If they can be slowly travelled with a dog-cart, and exercised as they go along, a clear day is scarcely necessary, if the dogs are hardy; and it is quite time enough to get into the new quarters by twelve o'clock on the day before running, so as to feed at one. But as the average of dogs seldom sleep quite so well in a strange place, this is, perhaps, not to be recommended as the ordinary rule.

SECT. 3.—MANAGEMENT AT THE MEETING.

THE AMOUNT OF EXERCISE required during the progress of the meeting is not very great, as the courses run will generally be sufficient. About an hour or an

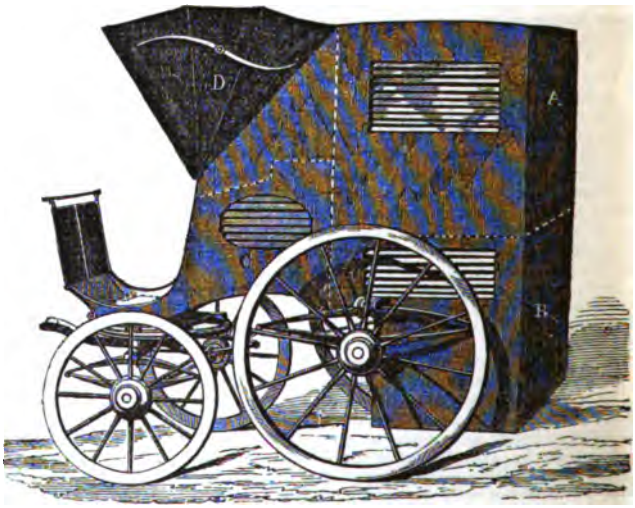
hour and a half will be required to give time for the dogs to empty themselves. They should be led out with their clothing on, and when the trainer can find a quiet field where there is no chance of a hare getting up, they may be loosened for a few minutes' play. Those dogs which are going to run on that day should have muzzles on, for fear of picking up bones or refuse of any kind, which precaution also serves to guard against wilful poisoning. After this they may be walked home, and well frictioned and dressed for half an hour each dog.

No Food should be given if the course is likely to take place by twelve or one o'clock; but if later than that, about one or two ounces of mutton and one of bread or toast will serve to keep up the tone of the system, which is lowered by excessive starvation. If more than one course is run, and the first is a severe one, a ball of mutton, spiced according to the following formula, or a simple spiced ball, should be given about a quarter of an hour before the course, with a mouthful of weak whisky-and-water, or brandy-and-water:—

Spiced-Meat Ball.

Take of Carraway seeds, 10 grains.
Cardamoms, 10 grains.
Grains of Paradise, 5 grains.
Ginger, 5 grains.
Lean boiled knuckle of mutton, ½ oz.

Bruise the seeds in a mortar, and then



mix with the mutton, and form it into a ball.

Common Cordial-Ball.

Take of Cummin seeds, 10 grains.
Coriander seeds, 10 grains.
Carraway seeds, 10 grains.
Grains of Paradise, 10 grains.
Saffron, 1 drachm.
Syrup, enough to form a ball.

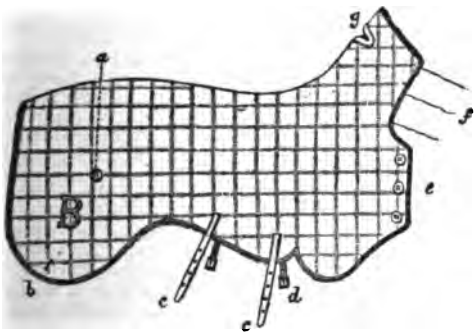
Bruise in a mortar, and mix well together; then make up into a ball.

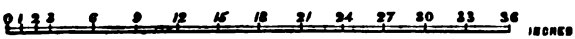
Egged-Wine is a very common remedy, but I believe it is very inferior to brandy-and-water alone, and certainly not equal to the spiced meat-ball, which I have seen effect wonders in many cases. As soon as the dog can be taken to his kennel after his course he should be fed, in preparation for the morrow, on the same quantity and quality of food as before.

A Dog-Cart, if possible, should be used on the ground; but if the distance is not more than two or three miles, and the weather is fine, the dogs are much better kept out till after they have run; but it is *after* the course that the cart is so useful, as the dogs may then rest quietly till they are taken home; and if they are detained very late, they may be fed on the ground, if the

trainer has taken the precaution to bring the food out with him. Hardy dogs bear this well, but delicate ones sometimes are made sick by riding in a cart on a full stomach. The annexed plan of a dog-cart, given in the preceding page, will be found to be very useful, and will accommodate eight or nine dogs very well—viz., four in the compartment A, three in B, and one or two in C; the dotted lines show the divisions between the three compartments. The head may be made to let down partially, for convenience of seeing on the ground; and the compartment A ought to have a door opening into the interior, so that the trainer may take out or put in a dog without subjecting him to the weather. By this plan he may strip and rub him, &c., under cover, and keep him there till he is ready to take him to the slips. Such a dog-cart ought to weigh nearly 7 cwt., and cost about from 25*l.* to 45*l.*, according to the materials and finish.

When the Trainer, who has his card in hand, finds that he shall soon be wanted, he should get his dog ready, and give him a good frictioning. If he has already run, he should treat him according to the rules laid down in page 226; and when his turn comes he should take him to the slips, keeping him walking about for about a quarter of an hour, if the weather is not very unfavourable. When the dog is put in the slips, the trainer should take care that he is on his right side, and, if necessary, that he has his collar on. If the weather is cold, or wet, the cloth should be kept on as long as possible, and for that





purpose it should button across the breast. These particular patterns are called "slip cloths:" *a b*, button and hole, to loop up the cloth when the roads are very dirty; *c c*, belly straps; *d*, a slit, to allow of the cloth hanging smoothly down over the arm; *e e e*, three buttons for closing the front over the breast; *f f f*, three strings for closing the throat; *g*, a slit, guarded by leather, for allowing the leading-rein to appear. If the dog is young and uneasy, the trainer should walk by his side, and stop his pulling if inclined that way; or if he is inclined to hang back, he should be ready to prevent his getting twisted, or to put him right if such an event happens. He should have an assistant mounted, if in an open country, to pick his dog up, or if enclosed, he should have one, two, or three, posted at the most likely coverts, which the hares make for. By these precautions the dog is prevented from getting a second course, which often destroys the chance of a good dog, after he has won his first.

The Accessories which should be taken in the dog-cart are—Spiced-meat balls, brandy or whisky, waterproof clothing, and spare cloths for dogs, muzzles in case they fight, leading-straps, sponge, cold water, food in tin cases, bluestone, Canada balsam spread on leather for wounds, needles and thread, bandages, lancet, and Friar's balsam.

External Restorations are of two kinds—those which can be used in the field, and those which may be applied in kennel. Of the former, friction with whisky is the best. The hand should be applied well for some little time in the ordinary way, then a little whisky should be rubbed

in, and finally a good deal should be rubbed rapidly on, taking care to choose a perfectly sheltered place, and clothing the dog warmly at once before the spirit has had time to evaporate. When the dog is much distressed by his work, and is panting severely, with blueness of the mouth, and the eyes red, take about four to eight ounces of blood, and use the whisky as above. After a short time, when the blueness abates, give the spiced-meat ball and a little brandy-and-water. If the dog's work has been very severe, a warm-bath at 98 degrees of Fahrenheit is the best restorative. He should be immersed in it up to the neck for fifteen minutes, then take him out, dry him well before a good fire, and afterwards rub him over all the body with hot whisky. He should be clothed before the latter is quite dry, and left to take his rest. The best time for the warm-bath is about three hours after the feeding-time.

THE WATER given at the meeting should all be boiled and cooled, as in this way the effect on the stomach of a change in the fluid is greatly diminished.

SECT. 4.—TREATMENT OF INJURIES, &c.

When the dog No. 1 (chapter vi.) is punished either by work or injuries, he may be suffered to try his best, and will often pull through. The dog No. 2 will also often bear injuries for one day, but will generally feel their effect very acutely on the following one, and must then be drawn, if he is ever to be of use hereafter, as he does not often try his best after being thus severely tested. The dog No. 3 had better, in any case, be drawn at once, if he is either severely worked, or bruised by a fall, or cut, or his nails broken or stripped. By nursing him in this way, he may at some time do good; but if liberties are taken with him, he will neither win on that day nor on any future one. By attention to these various indications, and carefully studying the powers, constitutions, temperaments, and habits of his dogs, the trainer is enabled to call out all the good, and prevent the appearance of the bad qualities of his charge. Herein the really useful man is shown; and by this careful study, many middling kennels have been made "to do the right thing at the right time." On the other hand, by a neglect of them, many a good dog in some countries has been taken to others for which he was unfit, and sacrificed to the ignorance or infatuation of his trainer or master.

CUTS ON THE LEGS are best managed by fixing on the adjacent skin a piece of white kid leather, spread with Canada balsam by means of a warm knife. This answers better than anything I have ever seen tried, and it agrees well with the dog's flesh. The balsam is very adhesive, and even the dog's tongue fails to remove it. It must be heated first before applying.

WHERE A LARGE PIECE OF SKIN is loosely hanging, as is often the case in enclosed countries, the flap must be held in its place by a suture. The plan is to pass a needle, armed with a strong thread, through the corresponding sides of the wound, at intervals of half an inch, then to tie each stitch separately, and cut the ends of the thread off, but not too closely. The Canada balsam over this makes it very secure, if the cut is on the head or the ribs; but it cannot well be applied without a firm foundation, such as those parts afford.

IF A STOPPER is detached from the leg, so as to be quite loose, it is far better to remove the hanging portion with the knife, and apply a bandage, with some Friar's balsam. Just before running, the raw surface must be rubbed with bluestone, which deadens the soreness, and prevents the dog from feeling the contact of the ground. Over the whole cut surface a piece of leather, spread with the Canada balsam, may be strained, and made to meet in front, so as to encircle the leg.

WHEN A CLAW is broken, the ragged bits should be carefully removed with nail-scissors, and a little Friar's balsam applied. On the day of running, about an hour or two before going to slips, take a piece of bluestone, and rub well over the quick which is exposed. A piece of lunar caustic answers better; but it requires great care in its use.

CUTS IN THE SOLE of the foot are best treated by a small patch of leather spread with the Canada balsam, which adheres very closely, if properly applied. A little bluestone, previously rubbed in, dries up the surface, and renders it less sensible to pain.

BRUISES OF THE LEGS, or elsewhere, are relieved by warm fomentations, followed by a lotion composed of a teaspoonful of tincture of arnica in half a pint of water, with which they should be kept constantly wet.

AFTER THE MEETING is over, the dog should be given a dose of physic, and a few potatoes or greens, according to his health.

Expenses of Rearing and Training:—			
Cost of brood-bitch, per year .	£5	0	0
Stallion, and travelling . . .	8	8	0
Tax on bitch	0	12	0
Keep of ditto	2	12	0
Keep of six puppies, at 1*s.* 6*d.* per week till eighteen months old	35	2	0
Tax on ditto after six months .	3	12	0
6)	55	6	0
Cost of each puppy	£9	4	4

Thus, reckoning the brood-bitch to cost 20*l.*, and to last four years, and calculating on six puppies from each litter, the mere keep of greyhound puppies, without extra charge for kennels or attendance, will make them cost 9*l.* 4*s.* 4*d.* each, at eighteen months of age. Add to this the wages of trainer and travelling expenses, with stakes, &c., and it will be clear that our large kennels cost no in considerable sum.

CHAPTER VIII.

MANAGEMENT OF COURSING MEETINGS.

Sect. 1.—Origin of Meetings.

Coursing-Clubs form one source of coursing-meetings, and were, until lately, the sole causes of public contests between greyhounds. For many years coursing-clubs have existed, and some time before the present century the oldest of them, held at Swaffham, was instituted. At that time the sport was confined to those who could gain admittance to this and some one or two other select clubs, and the day of open champion-meetings had not yet dawned. The chief clubs now in existence are the Everleigh, the Deptford Inn, the Cardington, the Baldock, the Amicable, and the Spelthorn, in the south; the Altcar, the Ridgway, the Market Weighton, the Coquetdale, and the Newcastle clubs, in the north of England; and in Scotland, the Caledonian, the Biggar, the Aberdeenshire, the North Berwick and Dirleton, and the Nithsdale and Galloway. These clubs have all of them more or less ground to course over, which they hold either by a rental, or by the favour of the owners of the property. In some cases, as at Cardington and Amesbury, the proprietors of the property over whose land the coursing takes place, not only permit the club to hold regular meetings, but pay all the expenses of preserving; whilst in others the club has to pay for preserving, as well as to give a rent for the manor. The latter is the usual plan in Scotland; and but for the existence of clubs, few large meetings could be held in that country.

Open Meetings are often originated by clubs which are anxious to try their strength in competition with their neighbours; in which case they throw their ground open to all coursers, instead of limiting their entries to members of their own body. More frequently, however, they are held for the benefit of some particular innkeeper, who is the tenant of an old servant of the lord of the manor, and who has permission to use the lands of his patron for the purposes of an open meeting. In the former case the meeting is under the control of the members of the club, but in the latter it is generally managed by the innkeeper himself—as at the Waterloo meeting—or by some person who is constituted a secretary by general accord, or by the consent of the patron, and who arranges all the proceedings, without any control but that of public opinion. Here, however, it is found that this control is sufficient, because if he does not give satisfaction his entries will not fill. The chief open meetings are the Amesbury, the Ashdown, the Newmarket, and the Cardington, in the south; the Waterloo, the Southport, the Kenilworth, the Sundorne, the Wolverhampton, the Burneston, the Huggate, and the Malton, in the north; and the Caledonian, the Biggar, and the Dirleton, in Scotland.

A Committee of Management should be formed in any case, who should meet and decide upon the election of the judge and slipper, the stakes to be run for, and their apportionment, and the rules which shall guide the meeting.

The Committee to consist of a flag-steward, a field-steward, and the secretary. Sometimes a slip-steward is added, in which case there should be two field-stewards, in order to keep the number an uneven one. All disputed questions to be decided by vote, and the chairman, in case

of an even number, to have the casting-vote.

THE ELECTION OF JUDGE, either to rest with the committee, in which case it should be published with the advertisements giving notice of the meeting, or else it should be vested in the general subscribers to the stakes, each of whom should have one vote.

The secretary to draw up, with the approbation of the committee, a programme of the meeting, which should be advertised, and should specify—

1st—The date of the meeting.
2nd—The names of the stakes.
3rd—The qualification for ditto.
4th—The entries for ditto.
5th—The apportionment of ditto.
6th—The expenses to be deducted.
7th—To whom applications are to be made for entries.
8th—The time and place of entry and drawing.
9th—The rules to regulate the meeting.
10th—The judge, if named, or, if not, the mode of election to be stated.
11th—The names of stewards.
12th—The secretary's signature.

THE DRAW should be conducted on the following plan: first, the money for each stake should be paid to the secretary by the subscribers; second, after this is completed, small squares of paper, exactly like each other, should be handed round, and each subscriber should, either himself or by his deputy, write the name of his dog, with the pedigree, colour, and age, upon one of them; after which they are folded up. The secretary then collects these for each stake in succession, placing them at once in a hat, from which they are to be drawn in regular order, and entered as they are drawn. Nothing can be more simple than this plan, and it does away with all necessity for numbered cards, &c., which are the source of constant confusion and mistakes. It also facilitates guarding, and prevents all hanging back to see what dogs are entered, which is not conducive to fair and large entries. It was introduced in the "Directions for the Management of Meetings," published by Mr. Welsh, in his eighth volume, but it has not been commonly acted on, and I was not aware of its existence until reminded by that gentleman.

THE DUTIES OF THE FLAG-STEWARD are to receive the fiat of the judge, and see that the flagman hoists the right flag (red or white for the left or right side of the card respectively, and *both* for undecided courses).

THE SLIP-STEWARD, if there is one, regulates the proceedings of the dogs at the slips, and sees that the next brace is ready.

THE FIELD-STEWARDS regulate the beating and the general proceedings of the field. They should have one or two flagmen, with blue flags, who should always be in sight of the beaters, and should restrain the progress of the crowd beyond their own boundary. The field-stewards should also see to the beaters, with the assistance of the secretary, who is usually one of their number.

THE RULES FOR THE GUIDANCE of meetings are of great importance to their success. Mr. Welsh's rules were usually acted on until the National Coursing Club, on its establishment in 1858, determined to draw up a new code. Under the presidency of the celebrated courser known as "Mr. C. Jardine," a set of new rules was drawn up by that gentleman, with the aid of a small committee, and received the sanction of the club at the next meeting, and of the whole coursing world since. A few alterations have from time to time been made in the original rules, and they now stand as printed in the following pages. At the Spring Meeting of 1863 the present code was formally adopted, and a select committee of three, consisting of the Earl of Sefton, Mr. C. Jardine, and myself, appointed to revise Mr. Thacker's rules for the decision of courses. We accordingly proceeded to our task, and the result was that a simplified code was drawn up, and passed at the following Summer Meeting in London in 1863. It is useless to record all the doings of the club at their several meetings since 1858, but their decisions in cases submitted to them being of the nature of precedents, should be preserved, and I have accordingly collected them as follows:—

PRECEDENTS ESTABLISHED BY THE NATIONAL COURSING CLUB.

June 4th, 1859.—Case 1. In the Selby case, sent to the club at the previous meeting, it was decided "that Snowball was only entitled to take his third share of the money to be divided between the three dogs left in; he not being entitled to the benefit of the bye till he had run it."

February 21st, 1860.—Case 2. Captain Spencer brought before the club a case for their consideration which had been referred to him as one of the stewards of a meeting

in the north. It appears that Iron King had been bred by Mr. Brougham, and given to a Mr. Hudson, who, considering him of no value, transferred him to Mr. Fisher. The latter ran him several times, paying all stakes and other expenses, without any claim being made; but on winning a stake, Hudson put in a claim for a share, and this was referred to Captain Spencer, who preferred taking the opinion of the club upon it. Mr. Fisher sent in a written statement, but though it was stated by Captain Spencer that Mr. Hudson promised to do so, none was forthcoming, and the club could only decide on this *ex parte* statement, backed by the opinion of Captain Spencer, that he believed the facts as declared by Mr. Fisher to be substantially correct. On these grounds, therefore, it was unanimously "resolved that, in the opinion of the club, the dog Iron King is the sole property of Mr. Fisher, and that Mr. Hudson is not entitled to any share of his winnings."

February 19*th*, 1861.—Case 3. An appeal from Mr. J. Scott, of Dublin, against a demand for 10*l.* made upon him by the stewards of the Belleek Coursing Meeting, under the following circumstances, which were stated in a letter from Mr. Scott, and confirmed by the oral evidence of Mr. Callan, who appeared for him, supported by a letter written by Mr. Owens to Mr. Scott. It appears that originally the Belleek Meeting was advertised to be held under the rules of the National Club, with the name of Mr. Owens as judge, but a few days before it came off that of Mr. Walker was substituted. Upon seeing this, Mr. Scott, who had taken two nominations, wrote to the secretary to decline keeping them, alleging that a breach of the thirteenth rule of the national code had been committed. The secretary, however, held him to them, and ultimately a demand was made upon him for the amount of the stakes, which sum Mr. Scott lodged with Mr. Bake, to abide the decision of the National Coursing Club. Evidence of these facts was given by Mr. Callan, who produced a letter from Mr. Owens, stating, "that he was not prevented by illness or any other unexpected cause," from judging at the meeting; and on these grounds it was decided unanimously, "that, as it appears from Mr. Owens' letter to Mr. Scott that he was not prevented acting as judge at the Belleek meeting, it is the opinion of this meeting that the stewards cannot call upon Mr. Scott to pay his entries, and Mr. Bake is therefore requested to return him the 10*l.* which he lodged in his hands, to abide the decision of this club."

Case 4. This was laid before the club by the secretary of the Spelthorne Club, arising out of a decision of the stewards at a meeting recently held at Overton. The facts were stated simply by Mr. Dean (the secretary) as affecting A and B, but to render them intelligible I shall relate them as they occurred. In the first round of the Cup, Mr. East's Enjoyment and Mr. Farnell's Farewell were in slips together, when, a hare being started, in slipping the dogs Farewell was held by a fault in the slips, while Enjoyment got away single-handed and had a severe course. Mr. East then demanded that Farewell should run a bye before the course was run out, which was resisted by Mr. Farnell, and ultimately laid before the stewards, who decided in favour of Mr. East; and the consequence was that Farewell ran the bye, and then coming against Enjoyment, was beaten by her, this bitch ultimately winning the stake. The club unanimously decided "that the stewards were wrong in calling upon Mr. Farnell to run the bye, there being no rule to give them that power, and numerous precedents being against such a proceeding." The secretary merely asked for an opinion on this point, and the question how far the stakes were affected was not entered into. Subsequently the matter was amicably arranged by Mr. East and Mr. Farnell.

Case 5. Mr. R. Anderson, of High Felling, Gateshead, applied to the club to know if he was entitled to his entrance money back for a stake which, after a postponement, it was agreed by fourteen out of the sixteen nominators should be run off on a certain day, regardless of the weather. Resolved that, "as the opinion of the majority in all such cases is binding on the minority, his claim be disallowed."

June 1*st*, 1861.—Case 6. Mr. Smith, the secretary of the Somerville Aston Club, applied for the opinion of the National Club whether Mr. Partridge, of Hanbury, near Birmingham, was liable for a nomination to a stake run on February 18, 1860. It appeared that Mr. Partridge applied by letter for a nomination on February 12, which Mr. Smith wrote him on the 14th he could have, as was proved by the envelope of the letter, which bore the Evesham post-mark of that date. Mr. Partridge declared that he did not receive this letter till the 18th, in the afternoon; but no corroborative evidence was given of this delay, and the club therefore decided "that Mr. Partridge is liable for the nomination."

Case 7. Major Beresford asked for an opinion whether he was liable for a nomination at the County Louth Champion Meeting held on March 6th and 7th, 1861, the amount of which was claimed by the secretary, and deducted from the sum to which Major Beresford was entitled as the nominator of the third dog. Statements were put in by himself and his confederate, Mr. Douglas; and to support his side Mr. Callan, the secretary, appeared in person. From the evidence it was ascertained—first, that the conditions were, that the stake should consist of sixteen Irish against sixteen English and Scotch dogs, the draw to take place on March 8th. Secondly, that at the Waterloo Meeting in February, Major Beresford and Mr. Douglas met Mr. Callan, and expressed a wish to have one nomination only instead of two, which had been allotted to them by mistake. Mr. Callan said that he had then twenty-two applications on the Irish side; but in the remainder of the conversation there was a difference in the statements. Thirdly, the conditions of the programme, and Mr. Callan's evidence, showed that he could not fill up the stake with Irish nominations instead of English until the time of the draw. Fourthly, a dog was finally entered in Major Beresford's name without his knowledge and consent. Under these circumstances it was decided by the club "that Major Beresford is not liable for his second nomination, on the ground that, according to the conditions, only sixteen Irish nominations could be allotted before the draw, and even then the additional Irish nominations could only be given by general consent. The club are further of opinion that the secretary was not justified in entering a dog in Major Beresford's name without his instructions."

February 18th, 1862.—Case 8. An appeal from Mr. Gunson, secretary of the late Whitehaven meeting, was laid before the club. It set forth that, in the first ties of a twenty-one dog stake, the bye was given by the stewards to the highest dog on the list, the lowest in the first round having previously had one. The Whitehaven meeting professed to be governed by the National code of rules, but no one on the ground having a copy, the stewards decided, they thought, in conformity with them, to the best of their abilities and memories. In the third ties another bye occurred, which was given to the middle dog, the lowest not having had a bye, which decision was protested against, and the bye was run under protest. The stake was ultimately won by the dog who obtained the bye in the first ties. The question put for the opinion of the club was, "How the stakes should be given under the circumstances?" After some discussion it was decided, "that as the order of running was altogether wrong after the first round, in consequence of the bye having been improperly given to the top instead of the bottom dog, the club are of opinion that the whole of the money should be divided amongst the eleven dogs standing in after the first round of the stake."

May 27th, 1862.—Case 9. Mr. Randell brought forward a decision of the stewards of the Tredegar Park Meeting in March 1862, handing in a statement of the facts of the case, which were met by a counter statement of the secretary of the Tredegar Park Club. There was no difference as to the facts, which are shortly as follow:—Five sapling stakes were run for by nineteen dogs, and a cup was given by Lord Tredegar to be run for by their respective winners. Mr. Randell won two, Mr. Price two, and Mr. Evans one. Mr. Randell then claimed that his dogs should be guarded, on the principle that the stake was contested by the nineteen saplings. The stewards, however, decided to the contrary, maintaining that it was a fresh stake, but instead of disturbing the original order of running on the card, and making a fresh draw, they adhered to the card, giving the bye to Mr. Evans, and compelling Mr. Randell and Mr. Price each to run their saplings together. Mr. Randell held that they were on the horns of a dilemma, and should either have guarded his dogs if they kept to the card, or else they should have drawn afresh. He asked the club, first, whether the decision of the stewards was right; and secondly, if wrong, what course ought to be adopted to make it right? After a short discussion it was carried, "that, in the opinion of the National Club, the stewards were wrong in their decision, inasmuch as that the cup itself formed part of the original entry of nineteen dogs, for which no new classification was necessary, and in which, therefore, two dogs belonging to the same owner were entitled to be guarded. And the National Club is further of opinion that the cup ought to be returned to the stewards, to be run for again by the five winners qualified under the National Club Rules as advertised."

Case 10. A statement was made by Mr. Blanshard of the facts relating to the decision of the Coquetdale stewards in March 1862, compelling him to run his dog Baffler

single-handed for the Coquetdale Cup, to be run for by the four winners of the other stakes. In this instance there had been a fresh draw, and the National Club rules had been departed from so far by the only party interested, as to allow of Mr. Blanshard's two dogs being guarded, his third nomination (Meteor), not being his own property. There was some little difference between Mr. Blanshard's statement and the official counter-statement of the secretary, but not in any essential point; the Club at once coming to the conclusion that the case rested simply on two points—first, whether an owner can at any time draw his dog, whether lame or not? and, secondly, whether there is any limitation to bye dogs except that of age? Mr. Blanshard's statement was simply that Meteor and Baffler being drawn together, he drew the former as lame, and then put Wild Deer in the slips to run the bye; but this was not allowed by the acting steward, who told him that he must either run Baffler and Meteor together, or run Baffler single-handed. He submitted to do the latter, and now asked the opinion of the Club, whether the stewards had any right in the first place to attempt to coerce him to run Meteor, and, in the second, to deprive him of the usual assistance of a bye dog? In conclusion he put in a certificate of Mr. Strangways, V.S., Edinburgh, that the dog was lame and unfit to run, and disclaimed any desire to upset the decision of the stewards, merely asking for the opinion of the National Club as a guide for the future.

Dr. Richardson and Mr. Foster, who appeared on the part of the Coquetdale Club, then each handed in a lengthy statement; but on being asked if they wished them read, they preferred making their own opinions known in a more conversational manner. Mr. Foster commenced by protesting officially against the question being entertained by the National Club, on the ground that "Mr. Blanshard having refused to refer this dispute to the adjustment of the National Club when pointedly requested to do so at the time it happened, cannot now avail himself of any appeal to it. Without any right of appeal on the part of the complainant, the National Club is not competent to take any cognizance of the matter. He argued that the decision of the authorities of the Coquetdale Meeting, right or wrong, is final and irrevocable, and the National Club has no judicial authority either in undoing or confirming the decision, and it is from the same cause incapable of giving any official opinion on the question."

The President at once informed Mr. Foster that the meeting had decided to entertain the question, and the club was prepared to incur the responsibility thereby assumed. Dr. Richardson then argued the question "on the ground that Meteor was fit to run, and that being so, his nominator had no power to draw him under the 24th rule of the National Code; that, in spite of this, Mr. Blanshard persisted in drawing him; but as the conditions of the cup required that it should be run for by the winners of the four stakes, they conceived that no other dog was qualified, and that no other could even run in the bye as an assistant. They therefore prevented Mr. Blanshard from using a fresh dog as an assistant to Baffler in the bye, and in this course they considered that they were fully justified by the analogy of puppy stakes, for which only puppies could run as bye dogs." It was finally resolved "that the National Club having fully considered the disputed case at the last Coquetdale Coursing meeting, which has been referred to them by Mr. Blanshard, and met by a printed statement from the committee of the Coquetdale Coursing Club, where the secretary has also been admitted to explain his own views, they are of opinion that there was nothing in the advertised programme of the Coquetdale Coursing meeting, in relation to the Coquetdale Cup, which debarred Mr. Blanshard, if he chose to exercise the right, from claiming under the present state of coursing law applicable to byes, to draw Meteor and substitute Wild Deer to run a bye with Baffler. The club is therefore bound to declare that the decision of Dr. Richardson in the first instance, which was confirmed afterwards by the stewards and committee, was not in accordance with the rules of the National Coursing Club, and must not be admitted as a precedent in future. They feel it due, however, to Dr. Richardson and the stewards, to record their conviction that they only arrived at the decision which they came to from a strong desire to carry out the real equity of the case, and that they were actuated in their decision by a strict sense of impartiality. The National Club is sorry to add that they must express a very strong feeling of regret and surprise that the Committee of the Coquetdale Coursing Club should deny the competency of the National Club to inquire into a matter which has been properly brought before them, in order to ascertain their opinion on a difficult subject."

February 17th, 1868.—Case 11. A charge

of default standing over from the last meeting being gone into, it was resolved "that the evidence on both sides not being quite satisfactory to the meeting, no decision could be arrived at, and no case of default was therefore substantiated against Mr. Bateman."

Case 12. An appeal by Mr. Taylor against the stewards of the Border Club, for ordering a savage dog out of slips. Resolved, "that, under Rule 6 of the National Club, the stewards of the Border Club had full authority to take what steps they might think necessary in regard to Mr. Taylor's greyhound while in slips."

February 16th, 1864.—Case 13. An appeal made by Mr. Hyslop against the bitch Graceful receiving the stakes as winner of the Puppy Cup at the late Brougham and Whinfell Meeting, asserting that she was not the *bonâ fide* property of her nominator, Mr. Jackson. In relation to this a letter was read from Mr. Brougham, one of the stewards, stating that he had received evidence on oath from several persons on this subject, but that it was of such a conflicting nature that he could not come to any conclusion, and he therefore begged to lay the matter before the National Club. It appearing that the question of ownership lay between a Mr. Wood and Mr. Jackson, and the latter stating by letter that Graceful belonged to him, Mr. Wood was called in and examined. He said that the dam of Graceful belonged to him, and that Mr. Jackson owned the sire. It was therefore arranged that Mr. Jackson should have the bitch, allowing him to take what interest he pleased in any stake she might be engaged in. Mr. Jackson paid the tax and keep, as well as all entrance monies. On being asked whether he expected to receive any portion of the winnings at Brougham, Mr. Wood said, somewhat reluctantly, that he did, but he explained that he did not even know beforehand that Graceful was going to run there. She was given to Mr. Jackson on Carlisle Show day, in September. Mr. Hyslop, the appellant, being present, stated that his witnesses (who were examined on oath by Mr. Brougham) testified that both Mr. Jackson and Mr. Wood contradicted themselves in their statements, and contended that, being all disinterested parties, they ought to be believed in preference to Mr. Jackson, in whose name the bitch ran, and Mr. Wood, who admitted that he expected to receive a share of the stakes. After some discussion it was resolved "that the evidence produced fails to prove that Mr. Jackson was not entitled to run Graceful as his property."

Case 14. An appeal upon an objection made by Mr. Hodson, the owner of Hylax, against Macaroni, the winner of the Northern St. Leger, at the Scarborough Open Meeting in November last, in consequence of being wrongly nominated. Mr. Brown, the Secretary of the Scarborough Meeting, produced the original entry from Mr. Simpson in which Macaroni was described as by Bugle, out of Sister to Riot, and also showed his book in which he was so entered, though the name Wisdom was afterwards substituted for Sister to Riot. An affidavit was then read, which proved that Macaroni was really out of Wisdom, a daughter of the said Sister to Riot. On this it was resolved that "the pedigree given of Macaroni is proved to be incorrect, and he must be considered disqualified."

Case 15. An appeal from Mr. Edgar Salmon, for the decision of the Club, as to the validity of a contract for the sale of a greyhound, was withdrawn, being considered by the members to be beyond the province of the club.

May 28th, 1864.—Case 16. An appeal made by Mr. Brougham against Blooming Daisy, for not running a bye at the Brougham and Whinfell Meeting, in October, 1863, in accordance with Rule 63. A letter was read from Mr. Brougham, detailing the nature of the case, from which it appeared that Blooming Daisy ran a "no course" according to the judge's decision, the reason for such decision being that a third dog, belonging to the owner of her competitor, had joined in immediately after the slip. Kitty Nicholson was consequently disqualified, and the judge having given his opinion that, according to Rule 32, Blooming Daisy had done sufficient to allow her to meet her next antagonist without running a bye, she ran the deciding course under protest. The question, therefore, submitted to the Club was, in effect, whether this was regular, or whether the stakes ought to go to Black Ball, who was defeated by Blooming Daisy in the deciding course. After some discussion it was resolved that, "in the opinion of this meeting, Blooming Daisy had done enough, in accordance with Rule 32, to run the deciding course without running a bye."

Case 17. An appeal from Mr. Chesshyre against Mr. Leighton receiving the stakes called the Oakley Stakes, for puppies, at the Cirencester Club Meeting in January last, won by his dog Lurlei, in consequence

of running a bye with an old dog without the consent of the stewards. The facts of the case were admitted to be, that three dogs only being left in the stake, Mr. Leighton's Lurlei was entitled to the bye, which she ran with an old dog without the consent of the stewards being asked. She subsequently beat Mr. Chesshyre's Charles III., but on that gentleman's making the discovery that she had run the bye with an old dog, he claimed the stakes, and the matter was referred to the National Club. After a good deal of discussion, turning on the point that Rule 13 lays down no penalty for running a bye with an old dog, being in this respect the only exception in the code, it was resolved that "the bye in the third round of the Oakley Stakes at Cirencester, not having been run in accordance with Rule 13, Lurlei cannot be considered to have gone any farther in the stake, and consequently is only entitled to the money given to the third dog."

Constitution and Bye-Laws of the National Club.

The National Coursing Club shall consist of not more than fifty members, of whom seven shall be a quorum. Ten shall go out by rotation, according to length of service, each year, at the summer meeting, and shall not be re-eligible for a twelvemonth. The gentlemen now composing the Club to be first on the list to retire, which, in their case, can be determined by lot; and new members coming in to be always placed at the bottom of the list, so as to mark the order of seniority. This rule not to apply to the President and Secretary, who shall be elected or re-elected annually.

The names of these ten members thus retiring shall be declared by the Secretary of the National Club at the Summer Meeting in each year, and their places, together with any casual vacancies, shall be filled up with new members, who shall be selected by such established coursing clubs throughout the kingdom, of more than one year's standing, as may be composed of not fewer than twenty-four subscribers. These clubs to have the right of voting in alphabetical order, after due notification of their enrolment, from time to time, to the secretary of the National Club: and members thus selected to enter office at the May Meeting of the National Club.

That all coursing clubs throughout England, Scotland, and Ireland, composed of not fewer than twenty-four members each, shall have the right each to elect one or more members to the National Club in alphabetical rotation, and that before the 25th of March, in each year, they shall notify their enrolment and the list of their members to the secretary of the National Club.

The secretary of the National Coursing Club shall, after the Summer Meeting in each year, inform the several coursing clubs, in alphabetical order, which of them are entitled to fill the vacancies in the numbers of the National Club. Such clubs shall proceed to the election of representatives, whose names must be returned to the secretary of the National Club before the 1st of January in each year.

It is to be understood that the alphabetical rotation is always to be followed in regard to the election by coursing clubs; and that, wherever the line is drawn in any one year, the next club in alphabetical order will head the list for the following year.

All complaints, of whatever description, or any matter in dispute connected with coursing, can be referred to the National Club for arbitration or adjustment; and no declaration or limitation by any body of men, which shall be intended to preclude such appeal, upon the occasion of an open meeting, shall be considered binding upon the subscribers to such open meeting, or upon the National Club.

Meetings for the despatch of business, and for the revision or alteration of rules, shall be held in London on the Saturday of the Derby week, at noon, and at Liverpool on the day of entry for the Waterloo Cup, at 3.0 P.M.; but the secretary, upon a requisition addressed to him in writing by any three stewards of a meeting, or by six public coursers, members of an established club, may summon a special meeting at the earliest convenient opportunity, at the most convenient place.

A month's notice must be given to the secretary of any business or proposed alteration of rules, before it can be discussed at the regular meetings of the National Club; and at any extraordinary special meeting nothing but the particular question for which that meeting has been convened can be entertained.

The National Coursing Club recommends that its code of laws shall be adopted universally, clubs merely adding such special or local regulations as may be required to adapt it to their own peculiar use; and as the principle of election to the National Club will henceforward vest in clubs consisting of not fewer than twenty-four members, they will be required annually to send a list of their enrolment to the secretary of the National Club, and to contribute their

quota towards the expenses of the National Club, a statement of which shall be declared by the secretary at the Summer meeting in each year.

Any club not having contributed its quota towards such expenses to be disqualified for returning a member to the National Club.

Code of Rules.

(1.) for the guidance of coursing meetings.

1. Secretary and Stewards.—The secretary of any proposed open meeting shall associate with himself a committee of not less than three members to settle preliminaries. The management of the meeting shall be entrusted to stewards and field stewards (in conjunction with this committee), who shall be elected by the subscribers present the first evening of a meeting. No steward to have a right to vote during a meeting in any case where his own dogs are interested. The secretary shall declare, as soon as possible, how the prizes are to be divided; and a statement of expenses may be called for by the subscribers after a meeting, if they think proper.

2. Election of Judge.—The judge may either be elected by the secretary and committee appointed under Rule 1, in which case his name shall be announced simultaneously with the meeting; or his appointment shall be determined by the votes of the subscribers taking nominations; but each subscriber shall have only one vote, whatever the number of his nominations. The appointment of the judge to be published at the least two weeks before the meeting, and the number of votes, as well as the names of the voters, to be recorded in a book, which shall be open to the inspection of the stewards, who shall declare the number of votes for each judge if called upon to do so by any of the subscribers. A fortnight's notice shall also be given of the day of voting, which shall be duly announced in the public papers. When a judge, from ill-health, or any other unexpected cause, is prevented from attending a meeting, or during a meeting finishing it, the stewards of the meeting shall have the power of deciding what is to be done.

3. Postponement of Meeting.—If a meeting appointed to take place upon a certain day be interfered with by weather which in the opinion of a majority of the stewards and committee present is unfit for coursing, they shall have power to postpone the meeting from day to day. If, through a continuance of bad weather, the meeting be void, the subscribers shall be liable for their quota of expenses. This rule not to apply to produce meetings, which must take place as soon as the weather will permit.

4. Taking Dogs to Slips.—Immediately before the greyhounds are drawn, the place and time of putting the first brace of dogs into the slips on the following morning shall be declared, and the owner of any dog which shall not be ready to be put into slips at such appointed time and place, or in proper rotation afterwards, shall be fined 1*l.*; if not ready within ten minutes from such time, the absent greyhound shall be adjudged to have lost its course, and the opponent shall run a bye. If both dogs be absent at the expiration of ten minutes, the stewards shall have power to disqualify both dogs, or to fine their owners any sum not exceeding 5*l.* each. No dog to be put into the slips for a deciding course until thirty minutes after its previous course without the consent of its owner.

5. Draw.—No entry by a subscriber shall be valid unless the amount of stake be paid in full, when a card or counter bearing a corresponding number shall be assigned to each entry. These numbered cards or counters shall then be placed together in a bowl, and drawn out indiscriminately. This classification, once made, shall not be disturbed throughout the meeting, except for the purpose of guarding, or on account of byes. Dogs whose position on the card has been altered in consequence of guarding must return to their original position in the next class, if guarding does not prevent it.

6. Guarding.—When more than one nomination is taken by one person, the greyhounds, provided they are *bonâ fide* his own property, or the property of one person, shall be guarded as follows:—Two if more than a four-dog stake, three if more than a sixteen, four if more than a twenty-four, five if more than a thirty-two, six if more than a forty, seven if more than a forty-eight, and eight if more than a fifty-six. In produce-stakes any number may be guarded. This guarding is not, however, to deprive any dog of a natural bye to which he may, in running through a stake, be entitled.

7. Control of Dogs in Slips.—The control of all matters connected with slipping the greyhounds shall rest with the stewards of a meeting. Owners or servants, after delivering their dogs into the hands of

the slipper, may follow close after them, but not so as to inconvenience the slipper, or in any way to interfere with the dogs, under a penalty of 1*l.* Neither must they hallos them on while running, under the same penalty. Any greyhound found to be beyond control and mischievous in slips may, by command of the stewards, be taken out of slips and disqualified.

8. GREYHOUNDS OF SAME COLOURS TO WEAR COLLARS.—When two greyhounds drawn together are of the same colour, they shall each wear a collar, and the owners shall be subject to a penalty of 10*s.* for non-observance of this rule; the colour of the collar to be red for the left-hand side, and white for the right-hand side of the slips. After the first round the upper dog on the card for the day will be placed on the left-hand, and the lower dog on the right hand of the slips.

9. THE SLIPPER.—If through accident one greyhound gets out of the slips, the slipper shall not let the other go. If the slips break and the dogs get away coupled together, the judge shall decide whether it is to be a "no course," or whether enough has been done to constitute it an "undecided course." In any case of slips breaking, and either or both dogs getting away in consequence, the slipper may be fined not exceeding 1*l.*, at the discretion of the steward.

10. RIDING OVER A GREYHOUND.—If any subscriber or his servant shall ride over his opponent's greyhound while running a course, the owner of the dog so ridden over shall (although the course be given against him) be deemed the winner of it, or shall have the option of allowing the other dog to remain and run out the stake, and in such case shall be entitled to half his winnings, if any.

11. GREYHOUND GETTING LOOSE.—Any person allowing a greyhound to get loose, and join in a course which is being run, shall be fined 1*l.* If the loose greyhound belongs to either of the owners of the dogs engaged in the particular course, such owner shall forfeit his chance of the stake with the dog then running, unless it can be proved to the satisfaction of the stewards that the loose greyhound had not been able to be taken up after running its own course. The course not to be considered as necessarily ended when the third dog joins in.

12. IMPUGNING JUDGE.—If any subscriber openly impugns the decision of the judge on the ground, except by a complaint to the stewards according to rule 32, he shall forfeit not more than 5*l.*, or less than 2*l.*, at the discretion of the stewards.

13. BYES.—No greyhound shall run more than one natural bye in any stake, unless it should come to his turn a second time; and this bye shall be given to the lowest available greyhound in each round. When a dog is entitled to a bye, either natural or accidental, his owner or nominator may run any greyhound he pleases to assist in the course; provided always that in sapling stakes only a sapling may be used, and in puppy stakes none older than a puppy. But if it is proved to the satisfaction of the stewards that no puppy can be found on the field, or otherwise, in time to run an unexpected bye in the first class, the owner shall have the power of substituting an old dog. No dog shall run any bye earlier than his position on the card entitles him to do so.

14. ALTERATION OF NAME.—If any subscriber shall enter a greyhound by a different name from that in which it shall last have run for any stake or piece of plate, without giving notice to the secretary of the alteration at the time of entry, such greyhound shall be disqualified.

15. PREFIX OF *Ns.*—Any subscriber taking an entry in a stake, and not prefixing the word "*Names*" to a greyhound which is not his own property, shall forfeit that greyhound's chance of the stake. He shall likewise be compelled to deliver in writing, to the secretary of the meeting, the name of the *bond fide* owner of the greyhound named by him, and this communication to be produced should any dispute arise in the matter.

16. DESCRIPTION OF ENTRY.—Every subscriber to a stake must name his dog at or before the entry, and for all stakes must give the name of the sire and dam of the dog entered. The secretary shall publish on the card the names of those who are subscribers, but do not comply with these conditions. These nominations shall not be drawn, but must be paid for. For produce stakes the names, pedigrees, ages, colours, and distinguishing marks of puppies shall be detailed in writing to the secretary of a meeting at the time of entry. The subscriber must also state in writing, should he be required, through the secretary, previously to or during the meeting for which such entry is made, the names and addresses of the parties who reared the puppies; and any puppy whose marks and pedigree shall be proved not to correspond with the entry given shall be disqualified, and the whole of its stakes or winnings

forfeited. No greyhound to be considered a puppy which was whelped before the 1st of January of the year preceding the season of running.

17. OBJECTIONS. — An objection to a greyhound may be made to the stewards of a meeting at any time before the stakes are paid over, upon the objector lodging a sum of *5l.* in the hands of such steward or the secretary, which shall be forfeited if the objection prove frivolous. The owner of the greyhound objected to shall be compelled to deposit equally the sum of *5l.*, and to prove the correctness of his entry. All expenses in consequence of the objection to fall upon the party against whom the decision may ultimately be given. Should an objection be made which cannot at the time be substantiated or disproved, the greyhound may be allowed to run under protest; but should the objection be afterwards substantiated, and the winnings have been paid over, the owner or nominator of the greyhound which may thus be disqualified shall return the money or prize, or be declared a defaulter. The money returned shall be divided equally among the greyhounds beaten by the particular dog thus disqualified; or if a piece of plate or prize has been added, such dogs alone as have been beaten in the several rounds by the greyhound objected to, shall have the privilege of contending for it.

18. TWO GREYHOUNDS REMAINING IN, &c.—If two greyhounds belonging to the same owner or to confederates remain in for the deciding course, the stake shall be considered divided, as also if the owner of one dog induce the owner of the other dog to draw him for any payment or consideration; but if one greyhound be drawn from lameness, or from any cause clearly affecting his chance of winning, the other may be declared the winner, the facts of the case being clearly proved to the satisfaction of the stewards.

19. THIRD AND FOURTH PRIZES.—When more than two prizes are given, the greyhound beaten by the winner in the last class but one shall have precedence of that beaten by the runner-up. When only three dogs run in this class, then the greyhound first beaten of these three shall have the third prize, and the fourth prize shall be given to the greyhound beaten by the winner in the previous class, unless the winner had a bye in that class, in which case the fourth prize shall be awarded to the dog beaten by the runner-up in that class.

20. WINNERS OF STAKES RUNNING TOGETHER.—If two greyhounds shall each win a stake, and have to run together for a final prize or challenge cup, should they not have run an equal number of ties in their respective stakes, the greyhound not having run the sufficient number of courses must run a bye or byes to put itself upon an equality in this respect with his opponent.

21. DEFAULTERS.—No person shall be allowed to enter or run a greyhound in his own, or any other person's name, who is a defaulter for either stakes or bets.

22. JUDGE OR SLIPPER INTERESTED.—If a judge or slipper be in any way interested in the winnings of a greyhound or greyhounds, the nominators of these dogs unless he can prove satisfactorily that such interest was without his cognisance, shall forfeit all claim to the winnings.

23. BETS ON AN UNDECIDED COURSE.—All bets upon an undecided course to stand unless one of the greyhounds be drawn. All bets upon a dog running further than another in a stake, or upon the event, to be p.-p., whatever accident may happen.

24. BETS ON STAKES DIVIDED.—Where money has been laid against a dog winning a stake, and he divides it, the two sums must be put together, and divided in the same proportion as the stakes.

(2) FOR THE GUIDANCE OF JUDGES IN THEIR DECISIONS OF COURSES.

Rule 25. THE JUDGE who may be appointed at any Coursing Meeting shall be subject to the General Rules which may be established by the National Coursing Club for his guidance.

26. HE SHALL DECIDE ALL COURSES upon the one uniform principle that the greyhound which does most towards killing the hare during the continuance of the course is to be declared the winner. This principle is to be carried out by estimating the value of the work done by each greyhound, as seen by the judge, upon a balance of points according to the scale hereafter laid down, from which also are to be deducted certain specified allowances and penalties.

27. THE POINTS of the Course are—

a. Speed—which shall be estimated as one, two, or three points, according to the degree of superiority shown. (See Definition below (*a*).)

b. The Cote.—Two points, or if gained when a greyhound is running the outer circle, three points.

c. The Go-bye.—Two points, or if gained on the outer circle, three points.

d. The Turn.—One point.

c. The Wrench.—Half a point.

f. The Kill.—Two points, or, in a descending scale, in proportion to the degree of merit displayed in that kill, which may be of no value.

g. The Trip.—Half a point.

DEFINITION OF POINTS.

a. In estimating the value of speed to the hare the judge must take into account the several forms in which it may be displayed, viz.—

1. Where two greyhounds start evenly from the slips, and in a straight run-up a clear lead of at least fifteen lengths shall be gained by the one dog, or where a decided lead is taken by the dog running the outer circle, in either of which cases three points shall be scored.
2. Where a go-bye is made in the run-up, from one dog accidentally hanging in slips, or starting slow and afterwards outstripping his fellow, for which two or three points may be scored, according to circumstances.
3. Where one greyhound leads the other, so long as the hare runs straight, but loses the lead from her bending round decidedly in favour of the slower dog of her own accord, in which case the one greyhound shall score one point for the speed shown, and the other dog score one point for the first turn.
4. Where only a slight lead is gained, one point to be scored for the speed, but the speed and the turn to be estimated separately. Under no circumstance is speed without subsequent work to be allowed to decide a course, except where great superiority is shown by one greyhound over another in a long lead to covert.

b. The Cote is where two greyhounds start equal from a turn, and the dog which made the cast, by superior speed outruns his antagonist, and makes the next turn or wreuch.

c. The Go-bye is where a greyhound starts a clear length behind his opponent, and yet passes him in a straight run, and gets a clear length before him.

d. The Turn is where the hare is brought round at an angle of 45 degrees from her previous line.

e. The Wrench is where the hare is merely beat from her line; but where she only leaves her line to suit herself, and not from the greyhound pressing her, nothing to be allowed.

f. The merit of a Kill must be estimated according to whether a greyhound by his own superior dash and skill bears the hare; whether he picks her up through any little accidental circumstances favouring him; or whether she is actually turned into his mouth, as it were, by the other greyhound.

g. The Trip, or unsuccessful effort to kill, is where the hare is thrown off her legs, or where a greyhound flecks her but cannot hold her.

28. The following ALLOWANCES shall be made for accidents to a greyhound during a course; but in every case they shall only be deducted from the other dog's score:—

a. For losing ground at the start, either from being unsighted or from a bad slip, in which case the judge is to decide what amount of allowance is to be made, on the principle that the score of the foremost dog is not to begin till the second has had the opportunity of joining in the course.

b. For a full while pressing the hare, when the next point gained by the other greyhound shall *not* count.

c. Where a hare bears very decidedly in disfavour of one of the greyhounds, after the first or subsequent turns, in which case the next point shall not be scored by the dog who may be unduly favoured, or only half his point allowed, according to circumstances.

d. Where a greyhound is ridden over, or disabled so that he cannot continue the course, such not being the fault of either of the owners of the dogs or their servants, in which case no subsequent points are to be scored, and the course shall end there.

29. PENALTIES are to be deducted from the score of the greyhound incurring them, and are as follows:—

a. Where a greyhound from his own defect refuses to follow the hare at which he is slipped, when he shall lose the course.

b. Where a dog wilfully stands still in a course, or departs from directly pursuing the hare, no points subsequently made by him shall be scored; and if the points gained by

such greyhound up to this time be equal to those made by his antagonist in the whole course, he shall thereby lose the course; but where one or both dogs stop with the hare in view, through inability to continue the course, it shall be decided according to the number of points gained by each dog during the whole course.

c. *If a dog refuses to fence* where the other fences, any points subsequently made by him are not to be scored; but if he does his best to fence, and is foiled by sticking in a meuse, or where the fence is too high for him, the course to end there. When the points are equal, the superior fencer to win the course.

30. THE ORDER TO SLIP shall, where practicable, be given by the judge, but the stewards of a meeting shall have power to depute this duty to some other person. The length of slip must necessarily vary with the nature of the ground, but should never be less than from three to fourscore yards, and must be maintained of one uniform length as far as possible throughout each stake. Whenever, from the nature of the ground, it is impossible for the judge to be close at hand in the run-up, and the course is nearly evenly balanced, his decision need not be given till he has conferred with the slipper, or person appointed to watch the slip.

31. IF A SECOND HARE be started during a course, and one of the dogs follow her, the course to end there.

32. A "NO COURSE" is where sufficient has not been done to show superiority in either greyhound and must be run again; but where both dogs have a single-handed course, and where one is agreed to be drawn, the judge shall decide whether enough has been done for the other dog to remain in without running an additional bye. An "UNDECIDED COURSE" is when the judge considers the merits of the dogs so equal that he cannot decide; and the dogs shall be put in again after two courses unless one be drawn; but the owners must at the time declare to the flag steward which dog remains in; after an undecided or no course, and the dogs before being taken up get on another or the same hare, the judge must follow and decide in favour of one if he considers that sufficient has been done to justify his doing so. After a "no course" it shall be at the option of the owners either to run again immediately or at the expiration of two courses, the latter being fixed if they do not agree. If it is the last course of the day, fifteen minutes shall be allowed after both dogs are taken up.

THE JUDGE SHALL DELIVER HIS DECISION aloud immediately the course is ended, and shall render an explanation of such decision before the third succeeding course to the stewards of a meeting, if required, through them, by the owner, or nominator, or representative of any owner or nominator, of a greyhound. The stewards to express their opinion whether the explanation is satisfactory or not, and their opinion may be asked for in writing and published afterwards, but the decision of the judge, once given, shall not be reversed.

JAS. BAKE, *Hon. Sec.*,
Bird's Cliff,
Cheetham Hill,
Manchester.

RULES

FOR THE DECISION OF COURSES, AND FOR THE REGULATION OF MEETINGS, AS AMENDED IN 1859 AND 1860.

1. *Decision of courses.*—Every course shall be decided according to the judge's estimate of the balance of points in favour of either greyhound. The value of the points in a course—viz., the cote, go-bye, wrench, turn, trip, or kill, as well as allowances or penalties, to be for the present considered as settled by Thacker's rules.

2. *Disputed decisions.*—The judge shall deliver his decision aloud immediately the course is ended, and shall render an explanation of such decision (if required by the nominator or his representative before the third succeeding course is run) to the stewards of a meeting, who shall express their opinions in writing on the same evening, whether such explanation is satisfactory or not; but his decision once given shall not be reversed.

3. *Allowance for being unsighted.*—If a greyhound be unsighted in going from the slips, or afterwards, it shall be at the di-

cretion of the judge to decide what allowance, *if any*, is to be made under the circumstances.

4. *Dogs dividing.*—If a second hare be started during a course, and one of the dogs follow her, the course to end there.

5. *Definition of courses.*—A "no course" is where sufficient has not been done to show superiority in either greyhound, and must be run again; but where both dogs have a single-handed course, and one is agreed to be drawn, the judge shall decide whether enough has been done for the other dog to remain in without running an additional bye; and it shall be at the option of the owners either to run again immediately or at the expiration of two courses, the latter being fixed if they do not agree. An "undecided course" is when the judge considers the merits of the dogs so equal that he cannot decide, and the dogs shall be put in again after two courses, unless one be drawn, but the owners must at the time declare to the flag steward which dog remains in. If it is the last course of the day, fifteen minutes shall be allowed after both dogs are taken up.

6. *Slipping.*—The control of all matters connected with slipping the greyhounds shall rest with the stewards of the meeting. Owners or servants on delivering their dogs into the hands of the slipper may follow close after them, but not so as to inconvenience the slipper, or in any way interfere with the dogs, halloing them on when running, or otherwise, under a penalty of 1*l.*

7. *Collars.*—When two greyhounds drawn together are of the same colour, they shall each wear a collar, and their owners shall be subject to a penalty of 10*s.* for non-observance of this rule; the colour of the collar to be red for the left-hand side, and white for the right-hand side of the slips. After the first round, the upper dog on the card for the day will be placed upon the left hand, and the lower dog on the right hand in the slips.

8. *Accidents in slips.*—If through accident one greyhound gets out of slips, the slipper shall not let the other go. If the slips break, and the dogs get away coupled together, the judge shall decide whether it is to be a no-course, or whether enough has been done to constitute it an undecided course. In any case of slips breaking, and either or both dogs getting away in consequence, the slipper may be fined not exceeding 1*l.*, at the discretion of the stewards.

9. *Riding over, &c.*—If any subscriber or his servant shall ride over his oppponent's greyhound while running a course, the owner of the dog so ridden over shall, although the course be given against him, be deemed the winner of it, or shall have the option of allowing the other dog to remain in and run out the stake, and in such case shall be entitled to half his winnings, if any.

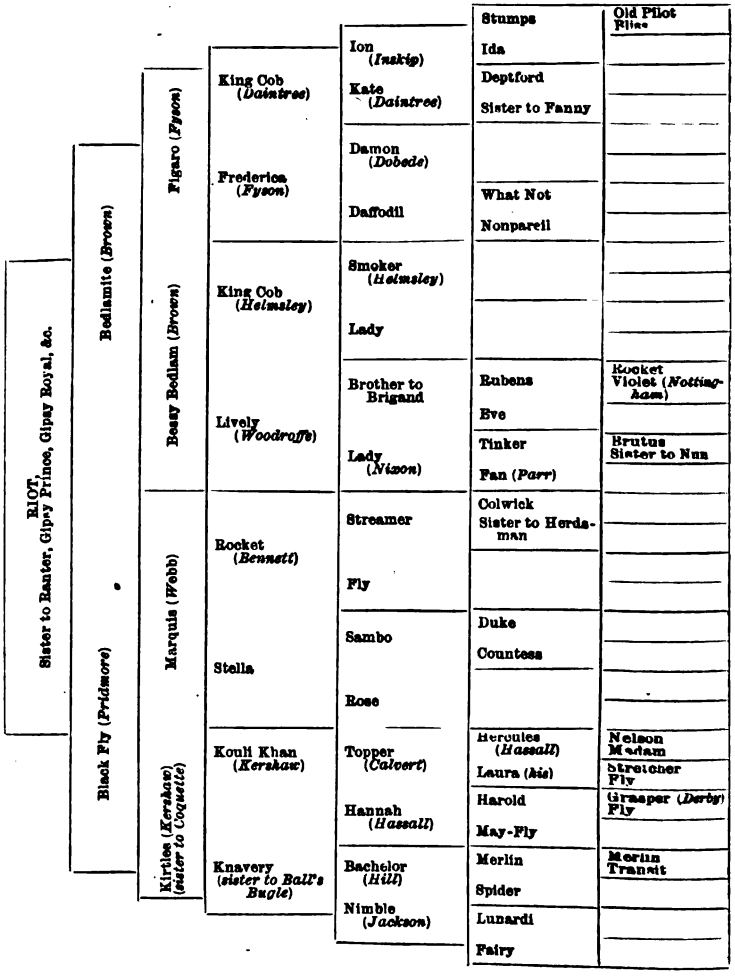
10. *Dog getting loose.*—Any person allowing a greyhound to get loose, and join in a course which is being run, shall forfeit 1*l.* If the loose greyhound belongs to either of the owners of the dogs engaged in the particular course, such owner shall forfeit his chance of the stake with the dog then running; unless it can be proved to the satisfaction of the stewards that the loose greyhound had not been able to be taken up after running his own course. The course not to be considered as necessarily ending when the third dog joins in.

11. *Impugning decision.*—If any subscriber openly impugns the decision of the judge on the ground, except by a complaint to the stewards according to Rule 2, he shall forfeit not more than five nor less than two sovereigns, at the discretion of the stewards.

PEDIGREES OF CELEBRATED DOGS.

The following pedigrees are inserted partly for the information of the courser, and also to serve as a comparison between those of the thoroughbred horse and the greyhound. The breeding of this latter animal has not been carefully attended to for so many generations as in the horse; and, consequently, his descent cannot be traced nearly so far back. Mr. Randall's celebrated bitch *Riot* has as long a pedigree as will be often met with; but even she breaks down in the fifth generation, and this will be found to occur still more markedly in the other pedigrees which I have selected, being those of the five most remarkable bitches (both as runners and at the stud), and the five most successful stallions of modern days, exclusive of *King Cob* and his son *Figaro*, which are included in the pedigree of *Riot*.

RIOT (*dam of Regan, Rebel, and Ringleader, by Barrator; of Rosy Morn, Patience, and Rio, by Blackstone; of Rienzo and Referee, by Judge; and of Master Leotard, Rapture, and Royalist, by Bridegroom; besides others of less note.*)



MR. MARJORIBANKS'—MOCKING-BIRD (*dam of Mansoor, Maris, and Mimosa, by Egypt; of Masquerader, by Motley; of Mechanic, by Mathematics; and of Master Mocking-Bird and Mazourka, by Egypt; besides many others of lesser note.*)

- MOCKING-BIRD
  - Figaro (Mr. Fyson)
    - King Cob
      - Ion
      - Kate
    - Frederika
      - Damon
      - Daffodil
  - Malvina (Lord Stradbroke)
    - Mealman
      - Mariner
      - Birdswing
    - Marsala
      - ———
      - ———

MR. J. JARDINE'S TOLLWIFE (*dam of Motley, Miss Hannah, Marmora, Moneytaker, Kittie Brown, and Cleik 'em in, by Sam, besides others of less note by that dog and Merry Lad.*)

- TOLLWIFE
  - King Cob
    - Ion
      - Stumps
        - Old Pilot
        - Bliss
      - Ida
    - Kate
      - Deptford
      - Sister to Fanny
  - Matilda Gillespie
    - Ian Roy
      - Jehu
        - Monarch
        - Lassie
      - Swallow (Baillie's)
        - Hotspur
          - Dandy
          - Swallow (Baillie's)
        - Cora
    - Lady
      - Kent
        - Squeezer
        - Kerse
      - Swallow (Paterson's)
        - ———
        - Alice

MR. CAMPBELL'S SCOTLAND YET (*dam of Canaradzo, Sea Pink, Sea Foam, Cloloja, Bugle, Dalgig, Coorooran, Canopy, and Ivie, by Beacon*).

- SCOTLAND YET
  - Wigan
    - Drift by Driver (*son of Monarch*)
    - Cutty Sark
  - Veto
    - Pedigree
    - Unknown

MR. COOKE'S CERITO (*dam of Hopmarket and Speck (sire of Railroad), by Bedlamite*).

- CERITO
  - Lingo
    - Lark
      - Leader
      - Tongue
    - Lady
      - Gunshot
      - Venus
  - Wanton
    - Emperor
      - Helenus
      - Fly
    - Blossom
      - Hœmus
      - Hadiz-a-Higa

MR. NOYE'S FOREMOST.

- FOREMOST
  - Fantail
    - Deptford
    - Sister to Gunshot
      - Hercules
        - Bergaine
        - Laura
      - Eyedrop
  - Frederica (*dam of Figaro*)
    - Damon
      - Whatnot
      - Nonpareil
    - Daffodil

MR. BORRON'S BEACON (*brother to Blackcloud and Bright Idea*).

- BLACKCLOUD
  - Bluelight
    - Monsoon
      - Streamer
        - Colwich
        - Sister to Herdsman
      - Bride
    - Stave (sister to Ball's Bugle)
      - Bachelor
        - Merlin
          - Merlin
          - Transit
        - Spider
      - Nimble
        - Lunardi
        - Fairy
  - Frolic
    - Waterloo
      - Dusty Miller
        - Tinto
        - Swan
      - Exotic
        - Nestor
        - ———
    - Florinda

MR. LONG'S DAVID (*brother to Columbine*).

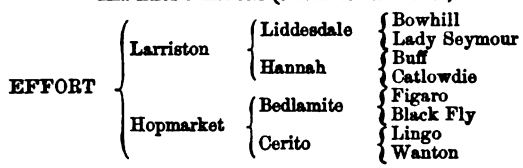
- DAVID
  - Motley
    - Sam
      - Traveller
        - Charles XII.
        - Madame
      - Tipettywitchet
        - King Cob
        - Kathleen
    - Tollwife
      - King Cob
      - Matilda Gillespie
  - Wanton
    - Senate
      - Sadek
        - Kouli Khan
          - Topper
          - Hannah
        - Harriet
      - Sanctity
        - Stradbroke
          - Mariner
          - Fly
        - Leanthe
    - Coquette
      - Kouli Khan
        - Topper
          - Hercules
          - Laura
        - Hannah
          - Harold
          - Mayfly
      - Knavery (sister to Ball's Bugle)
        - Bachelor
        - Nimble

MR. LAWRENCE'S LOPEZ (*brother to Egypt*).

- LOPEZ
  - Vraye Foy
    - Jason
      - Walter
        - Monarch
        - Betsy Baker
      - Risk
        - Deluge (11th cross from bulldog)
        - Butterfly
          - Galloway
          - Snap
    - Rosebud
      - Majesty (brother to Mariner)
      - Butterfly
        - Galloway
        - Snap
  - Elf
    - Westwind
      - Bran
        - Eurus
          - Hercules
          - Effie Deans (fifth from bulldog)
        - Harebell
          - Huff
          - Old Harebell
      - Gaiety
        - ———
        - England's Queen
    - Snail
      - Hilaris
      - Snail

It will be seen that Lopez and his brother Egypt had two strains of the bulldog cross.

MR. EAST'S EFFORT (*brother to the Brewer*).



CHAPTER IX.

DEER AND RABBIT COURSING.

SECT. 1.—DEER-COURSING.

The deer which is coursed in the Island of Jura, the only locality where this sport is now practised, is the red deer already alluded to at page 104. The hound used has also been fully described in the same chapter.

THE MODE OF CONDUCTING THE SPORT is as follows:—The deer is first stalked in the usual way, just as in deer-stalking; to the chapter on which the reader must refer for the particulars. Two deer-hounds are then slipped, and either succeed in pulling down their quarry, or are foiled by his speed and lasting powers. Mr. Scrope's description of one of these courses will give some idea of its exciting nature, but its length must preclude my giving it insertion. Suffice it to remark, that after the dogs were slipped, a long and severe course ensued, in which various casualties took place, incidental to such rough and rocky ground. At the termination of the course, when the party arrived at the spot where the deer lay, "Buskar was perfectly exhausted, and had lain down, shaking from head to foot like a broken-down horse; but on our approaching the deer, he rose, walked round him with a determined growl, and would scarcely permit us to come near him. He had not, however received any cut or injury, while Bran showed several bruises, nearly a square inch having been taken off the front of his fore-leg, so that the bone was visible, and a piece of burnt heather had passed quite through his foot. Nothing could exceed the determined courage displayed by both dogs, particularly by Buscar, throughout the chase, and especially in preserving his hold, though dragged by the deer in the most violent manner. This, however, is but one of the many feats of this fine dog. He was pupped in autumn, 1832, and before he was a year old killed a full-grown hind single-handed." Mr. Scrope goes on to remark, that "the speed of a deer may be estimated as nearly equal to that of a hare, though in coursing the latter, from its turnings and windings, more speed is probably required than in coursing the former; but, on the other hand, if a dog is in any degree blown when he reaches a deer he cannot preserve his hold, nor recover it if it is once lost; and, as it is only from his superior speed and bottom that a dog can continue to preserve his hold, and thus by degrees to exhaust the deer, till at length he is enabled to pull him down, this great power of endurance is only to be found in a thoroughbred greyhound of the original sort; for even though a cross-bred dog might succeed in fastening on a deer, he seldom has the speed or endurance necessary for preserving his hold; and should he receive a fall will, in all probability, suffer much more than a greyhound, whose elasticity of form is better able to resist such shocks. Perhaps the greatest advantage possessed by superiority of speed is that the dog runs less risk of injury; for so long as the deer has the power of movement, he will not turn round or attempt to defend himself with his horns, but endeavours to fly from his pursuers until they have fastened on him, and are enabled, by seizing on some vital part, to pull him down; whereas a cross-bred dog who has not sufficient speed for a deer, and succeeds only in running him down by the nose (and that after a long chase), at length finds the deer at bay with his back against some rock. In this situation no dog can possibly attack a deer with

the slightest chance of success. In fact, so skilfully does he use his horns in defence, and with such fury does he rush upon the dogs, that none can get to close quarters with him without the certainty of instant death. In this position, indeed, he could without difficulty destroy a whole pack. When running obliquely down a hill (which is a deer's *forte*), no dog can equal him, particularly if the ground is rough and strong; and in such a situation a dog without great roughness of feet is perfectly useless. It is, therefore, advisable not to let loose a dog at a deer in a lofty situation, as the ground is generally most rugged near the tops of the hills, and the dogs run a great risk of being injured. On the other hand, in low and level grounds, a dog is an overmatch for a deer in speed; and as the deer generally attempts to make for the high grounds for security, and is a bad runner up hill, the dog has a decided advantage when slipped at a deer in such a situation."—Page 363.

It would be idle for me to add any remarks upon a sport which it has never fallen to my lot to be engaged in; indeed, it is so limited in extent, and so rare even in Jura, that very few individuals are enabled to participate in it. Mr. Scrope seems to set great store by it, but, saving its rarity and the wildness of the accompanying scenery, there does not seem to be very much to recommend it in preference to the coursing of the hare. The dogs must have more courage perhaps, but they require little besides that quality and stoutness; whilst the ordinary greyhound requires working power and speed in addition. The one is more straightforward and bold, the other more scientific and full of the delicate points of distinction which give the chief interest to the coursing of the hare. I cannot but think, as I have stated at page 109, that the modern smooth greyhound, of good, stout, and hardy blood, would soon enter to this sport with great zest and spirit, and would pull down the best deer which ever ran.

Sect. 2.—Rabbit-Coursing.

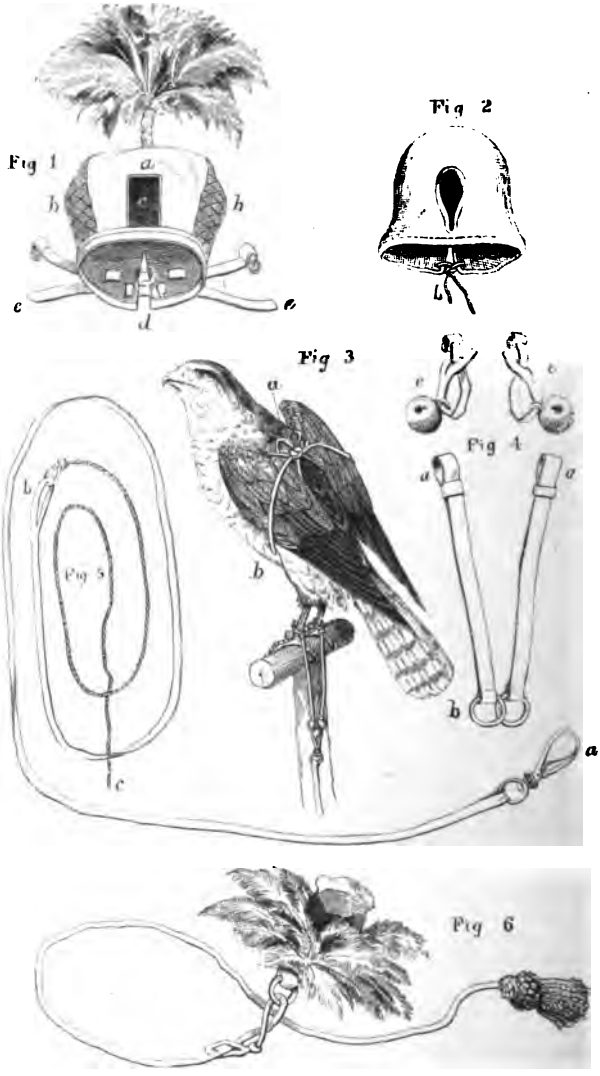
The Rabbits used for this purpose are usually caught in warrens, or elsewhere, and they are let out of a trap similar to the pigeon-trap, but of larger dimensions, by pulling a string. They require to be turned into an enclosed ground two or three times, and driven about, or they are apt to squat, and suffer themselves to be killed at once.

The Dogs are a cross of the terrier and greyhound, and are usually limited in weight, 25 lbs. being that which is generally adopted. They are very fast for their size, but would of course be beaten by even an inferior thorough-bred greyhound; hence, the stipulation is generally made as to breed and weight. They have great power of turning and stopping themselves, which is required by the short running and quick turning of the rabbits, which spirt about even more sharply than hares. Many of these dogs are very nearly, if not quite, of the pure old Wiltshire breed of greyhounds, and would kill many a hare in that locality, though not fast enough for some of the flyers found there.

The Mode of Conducting the Sport in rabbit-coursing is the same as in coursing the hare, except that the rabbit is let out of a box by pulling a string, instead of being found in the natural way. Slips are used, and a brace of dogs only are let loose. Generally the contest is confined to matches, in which the winner must gain two courses out of three; but sometimes sweepstakes are run for as in hare-coursing.

The Rules are precisely analogous to those given at page 236, some of which however are not wanted in this species of sport, where there are no fences, and where dogs are seldom run to a stand-still.

The Chief Localities where this sport is carried on are the suburban gardens of our large manufacturing towns; as, for instance, the Pomona Gardens, Manchester. Here the mechanic is enabled to amuse himself by trying his dog's powers in competition with others belonging to his companions. It may be open to the charge of cruelty, but so is every sport depending upon the death of its victims for its existence; and certainly in this respect rabbit-coursing is not to be compared with shooting, in any of its multifarious forms. It may not be very interesting to those who can obtain more expensive and more exciting amusement, but to those who are confined in the murky air of our manufacturing towns, it affords an incitement to comparatively fresh air and out-door recreation of the body.



APPARATUS USED IN HAWKING. P. 247.

PART I.

THE PURSUIT OF WILD ANIMALS FOR SPORT.

BOOK IV.—FALCONRY.

CHAP. I.

SECT. 1.—THE GAME FLOWN-AT.

THE HERON (*Ardea Cinerea*), though already alluded to as being met with occasionally in the fens, must now be more fully described, since it is the chief of the birds at which the hawk is, or rather was, flown, in the sport called Falconry, or Hawking. In the winter they are shy and solitary, and are then more frequently seen in the fens by themselves; but in the spring they congregate and resort to the place of breeding called "a heronry," which is usually in a high wood. The nests are built like those of the rook, which bird they resemble in their habits, at this time of the year, in many respects. Sometimes, however, they build upon rocks on the coast, and at others in reeds or rushes; but these are rare exceptions, and the ordinary situation is the top of a lofty oak, fir, or elm tree. The nest is very large and broad, made of sticks, and lined with wool. The eggs are four or five, of a sea-green colour, rather more than two inches in length, and one and three-quarters in breadth. The heron feeds on fish, reptiles, mice, &c. When fishing, which is usually early in the morning and late at night, he stands motionless in shallow water, with the head between the shoulders, which, on seeing his prey, he darts as quick as lightning into the water, with a sure stroke. It is remarked that the heron always seeks the protection of a rock, or other impenetrable body, when a wind is blowing. In the adult bird, the beak is yellow; iris, yellow; head, greyish-white; plume, dark slate-blue; back, French-grey; tail, slate-grey; neck, white, with dark blueish-grey spots in front; breast, belly, and vent, greyish-white, streaked with black; legs and toes, greenish-yellow; claws, brown. Length, three feet. Adult females differ only in their colours being less bright. The plume does not appear till the third year.

The following list of HERONRIES is extracted from Mr. Yarrell's splendid contribution to British Ornithology, to which I am also indebted for much useful information relating to birds here introduced:—

BERKSHIRE.—Windsor great park, two.

CHESHIRE.—Durham Massey, the seat of the Earl of Stamford; Combermere Abbey, belonging to Lord Combermere; Hooton on the Mersey, the seat of Sir T. M. Stanley, Bart.; Ardley Hall, the residence of R. E. Warburton, Esq.; and at Oulton Park, the seat of Sir Philip Grey Egerton, Bart.

CUMBERLAND.—Gowbarrow Park, near Ulswater Lake, and at Graystock, or Graystoke.

DEVONSHIRE.—Powderham Castle, another at Sharpham on the Dart, and a third at Warleigh on the Tamar, the seat of the Rev. W. Radcliff.

DORSETSHIRE.—Brownsea Island, near Poole.

DURHAM.—Ravensworth Castle, the seat of Lord Ravensworth.

ESSEX.—Wanstead Flats.

KENT.—Cobham Hall, the seat of Earl Darnley; and at Penshurst Park.

LINCOLNSHIRE.—Formerly at Cressy Hall, near Spalding, a very large one, now destroyed, but two others established in the neighbourhood—Downington; Manby, near Brigg, belonging to Lord Yarborough; another at Skillingthorpe Wood, near Lincoln.

MIDDLESEX.—Osterly Park.

NORFOLK.—Didlington, the seat of Colonel Wilson.

NORTHAMPTON.—The seat of Earl Spenser.

NORTHUMBERLAND.—Chillingham Park, the seat of Lord Tankerville.

SHROPSHIRE.—At the mere, near Ellesmere.

SOMERSETSHIRE.—Picton, belonging to the Earl of Carnarvon; and at Brockley Woods, near Bristol.

SURREY.—Cobham Park, the seat of H.

Coombe, Esq.; and at Ashley Park, Walton-on-Thames, the seat of Sir H. Fletcher, Bart.

WARWICKSHIRE.—Warwick Castle, the seat of the Earl of Warwick.

WESTMORELAND.—Dalham Tower, the seat of Colonel Wilson.

YORKSHIRE.—One, at the seat of R. Thompson, Esq., near Boroughbridge; another at Walton Hall, the residence of Charles Waterton, Esq.; and at Hutton, near Boverley, the seat of Mr. Bethel.

KITES, PARTRIDGES, PHEASANTS, LARKS, ROOKS, MAGPIES, PIGEONS, SPARROWS, and WILDFOWL have each in their turn been flown-at in modern times, within the limits of Great Britain. A great attempt has been recently made to restore this almost forgotten sport to something like its pristine state, and in doing so pigeons were chiefly the subjects of the falconer's art; because they only could be ensured at the time when a large company was assembled together. But the attempt failed to attract attention, and it is scarcely likely to be generally popular in such days as these, when the patience and perseverance of the old-fashioned sportsman are no longer practised. A few casts of falcons are still maintained where heronries are kept up, as one of the proofs of antiquity of places or race, to which most people cling who have any title to them; but they are so scarce as to be out of the reach of nine hundred and ninety-nine out of every thousand of her Majesty's sporting subjects.

SECT. 2.—VARIETIES OF HAWKS USED IN FALCONRY.

THE LENGTH OF WING and the notch in the bill form the basis of the two classes into which the hawks are divided. Those whose wing-feathers project as far as the ends of their tails being called long-winged hawks, whilst the epithet short-winged is given to those whose tails are much longer than their wings. But the utility for hawking purposes does not always exactly depend upon this formation, since the short-winged goshawk and sparrow-hawk are far superior to the long-winged kestrel. All the falcons relieve their stomachs of the undigested feathers, bones, &c., of their prey, by vomiting up what is called "castings," some time after they have devoured them. None of the falconidæ change their wing and tail-feathers in their first autumnal moult.

THE GYR-FALCON (*Falco Gyr-Falco*).—This splendid bird is long-winged, and is the largest species used in hawking; it is very rare in Great Britain, and can seldom be obtained even in Norway or Iceland, where it is comparatively common. In the olden days of falconry, the Iceland gyr-falcon was very highly esteemed, it being supposed to be more courageous and of more rapid flight than the British variety, or even that obtained from Norway. Indeed it was very commonly supposed to be a distinct species, but it is now generally considered as identical with the gyr-falcon of Great Britain. It was used for flying at herons and the larger kinds of wildfowl, for which its great size and strength made it peculiarly fitted. In length the gyr-falcon is about 23 inches. The beak is of a horn colour, with yellow cere, iris, dark; the back and all the upper parts of the body vary according to age, from a plumage of dark brown shaded with light brown, to feathers each edged with white and having a light brown centre. The lower parts also vary from a pale brown to a pure white. The tarsi and toes are yellow; claws, black and much curved. The nest is built high among the rocks of the coast, and the eggs are of a dull white ground, mottled with pale reddish-brown; they are nearly two inches and a half long, and two inches in diameter.

THE PEREGRINE FALCON (*Falco Peregrinus*), being more common than any of the large long-winged falcons suitable for hawking purposes, has always been the chief subject of the falconer's art. She is nearly as large and powerful as the gyr-falcon. The female is larger than the male, and is consequently used in falconry in preference; being reserved for the heron and wildfowl, while the male is flown at partridges and quails. The yearling male is called a red tiercel, and the female a red falcon; the further names of eyas, gentil, passage, and haggard, are also applied to them according to the age at which they are taken, the first name being given to the nestling birds. The peregrine is found almost in all countries, hence its name. It builds on the high rocks all round the coast of England, Wales, and Scotland, and in the interior of Ireland, as well as on its sea coast; and lays from two to four eggs, about two inches long, by one and two-thirds in breadth, mottled all over with pale reddish-brown. In length it is about 18 inches if a female; or 15 inches, if a male. The beak is blue; cere and eyelids, yellow; iris, dark brown; top of the head and neck, and also a spot under the eye, brown-black. The whole upper surface of the body is of a blueish-slate, or ash colour, hence its com-

mon name of "blue falcon;" these feathers are barred with a darker shade of the same colour, and both shades become lighter in old birds. The primaries, dark brown, barred and spotted with rusty white. Front of neck of a white ground, with longitudinal streaks of brown; breast, pale rusty-white with transverse bars of brown. Flanks and under surface of the tail-feathers barred with white. Legs and toes, yellow; claws, black. The young peregrines have all the upper parts of a brownish-ash colour, each feather having a rusty edge. The longitudinal streaks on the breast are also more marked.

THE HOBBY (*Hypotriorchis Subbuteo*) is a peregrine in miniature, but of a more delicate, airy, and elegant shape. It is also more bold in proportion to its size, having sometimes been known to fly at birds larger than itself. It is a bird of passage in this country, appearing in the spring, and leaving us again for warmer regions in October or November. Its chief haunts are the woodlands of the more cultivated districts, where it probably succeeds in obtaining half-crippled thrushes, sparrows, or other birds, more easily than would be the case if they were whole and sound. It makes its nest in some high tree, usually selecting the deserted one of some other bird. The female lays three or four eggs, in length one inch and two-thirds, breadth one inch and one-third, speckled all over with reddish-brown on a ground of dirty white. The hobby is obliged to have recourse to large insects for food in default of birds, which it cannot always procure. The female measures 14 and the male 12 inches in length. The colours of the male are as follows:—beak, horn-colour; cere, greenish-yellow; iris, brown; all the upper parts greyish-black, the feathers having each a whitish fringe; primaries and secondaries black, edged with white; the two middle tail-feathers plain black, the others barred with a lighter shade; chin, white; cheek, black; breast, belly, and thighs of a yellowish-white ground, with streaks of brown; legs and toes, yellow; claws, black. It is too small for hawking purposes, but may be used to fly at larks or sparrows let loose from the hand.

THE MERLIN (*Hypotriorchis Æsalon*) is like the hobby, too small for the purpose of flying at any of the larger varieties of game; but, as he is a very bold bird, he is capable of being used with great efficiency in taking larks, &c., on the open downs, or small birds let loose from the hand. So bold and powerful is this little falcon, that he has been seen to strike and kill a partridge of more than double his weight. He is very tenacious on his prey, and it is very difficult to make him leave it when he has full possession. He does not often, like the hobby, feed on insects, but pursues small birds with unrelenting fury and courage. The greater number of the merlins found in this country are bred elsewhere, but many nests are found in the northern moors and in North Wales. The nest is made on the ground, with very scanty materials. The eggs are four or five in number, mottled with two shades of reddish-brown, and they measure one inch and seven lines, by one inch and three lines. The merlin is from ten to twelve inches in length. Its description is as follows:—In the male, beak, horn-colour; cere, yellow; iris, brown; upper parts, blue-grey; with a dark line along the shaft on each feather; primaries, black; tail feathers, blueish-grey, verging to black towards the exterior third, and each feather having a white tip; chin and throat, white; breast and under parts rufous, with patches or streaks of brown on each feather; legs and toes, yellow; claws, black. The females differ in having all the upper parts of a dark liver-brown, each feather having a rusty tip; tail, brown, with five narrow transverse bars of a deeper shade; under parts, pale, whity-brown, with darker streaks. The young males resemble the females.

THE KESTREL, though a long-winged hawk and of very great powers of flight, can never be trained even to fly at small birds. Its timidity is so great that it will not return to the wrist of the falconer, unless very strongly pressed by hunger. At one time I doubted this fact, but having persevered for many months in endeavouring to reclaim a pair of these birds, I can speak from experience as to its utter impracticability. It may, therefore, at once be dismissed from the list of hawks suitable to the falconer's purpose. The remaining hawks are of the short-winged subdivision.

THE GOSHAWK (*Astur Palumbarius*) not only has the shorter wing to distinguish it from the true falcons, but it has also a lobe instead of a tooth on the cutting edge of the upper mandible. In flying at its game, the goshawk does not soar above it and then stoop, but follows in the same line, in a style which is called "raking" in falconry. This is occasioned by its comparative want of speed, which forbids its soaring, and it is consequently compelled to adopt the only plan left to it. Nevertheless, it is a very bold bird, and was formerly

highly esteemed for flying at ground-game. Its flight is very fast for a short time, but it cannot long maintain its speed; and if it does not succeed at once, it gives up the pursuit and retires to the nearest tree, from which it may be easily "lured." Colonel Thornton was very partial to this species of hawk, and used it in the pursuit of pheasants to a great extent. Those which he trained were obtained partly from Scotland, but chiefly from the continent. It is very rarely met with in the south of England, though a few specimens have been taken on Dartmoor; there is no record of its appearance in Ireland. It builds in some high tree on the outskirts of an extensive forest, and lays three or four eggs of a pale blueish-white. The female is from twenty-three to twenty-four inches long; male, about seventeen or eighteen. Plumage alike in both, when full-grown; beak, horn colour; cere and iris, yellow. All the upper parts dark-greyish brown, inclining to clove-brown in the females; tail feathers, barred, with a much lighter shade of brown. All the under parts white, with spots and undulating transverse bars of brownish-black on the breast, belly, and thighs. Cheeks and ear-crests, greyish; eyes and toes, yellow; claws, blueish. The young birds differ in having the top of the head and ear coverts of a rusty white, with a dark band down the middle of each feather; back, wings, and upper tail-coverts, brown, with an edge of buff. Primaries, dark-brown, with two shades of brown barred on the inner webs; under parts, greyish-white, each feather having a central patch of dark-brown; legs and toes, brownish-yellow.

The Sparrow-Hawk (*Accipiter Nisus*) is another short-winged hawk. It is much smaller, and bears in some measure the same relation to the goshawk which the merlin and hobby do to the gyr-falcon and peregrine. Thus, the young aspirant for honours in falconry may choose in every case any one of the three sets, and then confine himself to the under-sized bird, which must be flown at small game; or extend his operations to the more bold and expensive amusement for which the three larger varieties only are suited. In all the wooded districts of Great Britain this hawk is very common, and may be readily obtained when in the nest; but for the purpose of falconry it must either be allowed to reach its full powers in a wild state, and can then only be procured by trapping, or it must be reared in a half-wild state, called "rearing at hack." It is an extremely dangerous enemy to the poultry-yard, and the young broods of game, and, as I have already directed in the chapter on game-preserving, should be diligently rooted out in every preserve. It builds in some tree, generally in the deserted nest of a crow or magpie, and lays four or five eggs of a pale blueish-white, blotched with dark reddish-brown. The male measures twelve inches in length; beak, blue; cere and iris, yellow; all the upper parts, rich dark-brown; tail, greyish-brown, transversely barred with darkish-brown; under parts, rufous, with numerous transverse bars of a much darker shade; legs and toes, yellow; claws, black. The female is fifteen inches long, and differs as follows:—The upper parts are marked with delicate white spots, which are partially concealed by each successive feather; primaries and tail feathers, of a lighter brown; under parts, greyish-white, instead of rufous. The young male resembles the female, but the feathers of the back are not spotted with white, but are edged with reddish-brown; tail, reddish-brown towards the base.

The Kite, Buzzard, and Harrier may be reclaimed, but are not bold enough for the purpose of hawking; and so long as the peregrine falcon or goshawk may be obtained, no one would dream of their use. They have none of the daring of that bird in the presence of man, though, in a wild state they sometimes exhibit great boldness and courage.

Sect. 3.—Hawking Apparatus, and Technical Terms.

The Hood-Proper is of the greatest importance in breaking the hawk to the hand, and its manufacture requires some little nicety of workmanship. Its great use is to tame the hawk by producing temporary blindness; and as we know the effect of solitary confinement in the dark, we can easily understand the consequence of this mode of treatment. This hood is made of stiff leather, and must be blocked upon a wooden model of the intended shape, so as to sit stiffly and firmly on the hawk's head. In order to obtain the necessary shape, a central portion of leather (*fig.* 1 *a*) is let in, and neatly stitched to the cheeks, which are seen at *b b*; *c* is an aperture for the beak to come through, and should be large enough to allow of the bird ejecting his castings without difficulty, but not wide enough to allow him to see; *d* is a slit at the back, to allow of its being put over the head, and afterwards confined by means of

the leathern braces *e e*, which draw together, and fix it easily, yet securely. In blocking the leather, a convex piece of leather or other material should be fixed upon the ground-block to represent the eye, by which precaution the hood is rendered more concave at that part, and is prevented from pressing upon that delicate organ. If this is properly attended to, the hood sits quite easily, even on the prominent eyes of the kestrel, which is the most difficult of all to fit without injury. The hood proper is usually ornamented with a tuft of feathers, as shown in the woodcut.

THE RUFTER-HOOD is intended to remedy the defects of the hood-proper, when badly made, but instead of this it only aggravates the evil. Every one knows that a smooth and polished piece of leather would be less painful to the eye than a rough surface, even though soft and pliant; besides, the rufter-hood being of cloth or pliable leather, is more liable to be rubbed into the eye in the efforts of the hawk to get rid of it; and I have found by experience that it is a very bad substitute, even for a badly made hood-proper. It is made in two pieces, having a neat seam down the centre, and, like the hood-proper, has a hole for the beak, and also a slit at the back with a brace (see *fig.* 2, *a* and *b*).

THE BRAIL (*fig.* 3) is merely a slip of soft leather slit down by the knife, so as to include the wings (as shown at *fig* 3, *a b*) while the end is continued backwards, and being carried along the side, is tied to the other end above the back. Its object is to prevent the newly-caught hawk from fluttering, or "baiting," as it is called, which would permanently injure her feathers, so as to interfere with her appearance and powers.

JESSES AND BELLS are fixtures to the legs of the falcon, being constantly suffered to remain on, even when flying at her quarry. The jesses are two slips of leather, or knitted silk, one for each leg, a few inches long, varying with the size of the hawk. One end of each (*fig.* 4, *b*) has a ring to which the swivel of the leash is attached; the other has a running noose (*a a*), in which the leg of the hawk, together with the "bewit" of the bell is inserted. The jesses are held by the fingers of the falconer when the bird is on his wrist, or they serve to attach her to him by the leash when in training. The bells are for the purpose of finding the hawk when she is at large, and they are attached by a double slip of leather *called* the *bewit* (*fig.* 4, *c*), through which the leg is passed, and then the button is still further confined by the running noose of the jesse.

THE LEASH (*fig.* 5, *a b*) and CREANCE (*fig.* 5, *b c*) are for the purpose of confining the hawk. The former is of leather, with a swivel at *a*, by which it can immediately be unhooked from the jesses when the game is on the wing. At the other end it has a simple loop at *b*, by which it may be lengthened with a light cord called the "creance." This last is only used for training purposes.

THE LURE, in some form or other, is used to entice the hawk back to the wrist of the falconer, either after an unsuccessful flight, or when the game is struck, and is to be saved from the talons of its devourer. The ORDINARY LURE is a bunch of gaudy feathers, with a cord and tassel (as shown at *fig.* 6). In the middle of the feathers is a forked piece of wood to which is tied a piece of raw meat. By accustoming the hawk to feed upon flesh tied to this lure, she soon learns to come to it immediately; and thus its chief use is obtained. THE TABUR-STYCKE and DRAWER are modifications of the same, merely using a stick instead of a cord.

HAWKING GLOVES are made of stout tanned leather, with gauntlets coming up over the wrist. In the palmy days of falconry these were very gaily ornamented; but this being quite a matter of taste, it is needless to go into the many colours and ornaments which were appended to them.

THE MEWS is the apartment in which the hawk is kept. This should be open to the air on the south and west, but protected from the cold winds coming from the north and east. In intense frost, windows are required, but usually the apertures may be left open day and night. When several hawks are kept, two or three of these apartments must be provided, in order to suit the particular constitutions or conditions of each variety or species. Wooden blocks or perches must also be fixed in the ground; the former being mere cones of wood for the long-winged hawks, whilst the latter are for the short-winged hawks, and are cross-bars fixed at the top of posts, and having a piece of cloth or matting hanging down to the ground, by which the hawk is assisted in recovering his perch; and the leash is also prevented from being entangled, by the hawk constantly descending on one side and ascending on the other. The floor should be of dry gravel, constantly renewed.

THE CAGE is used for removing the hawks from place to place. It is merely an oblong square, or circle, of light wood, in the centre

of which the falconer walks, supporting the weight by shoulder-straps, and steadying it with his hands. The cross-bars should be of a size suited to the feet of the hawks used, and should be of soft wood, or even padded with leather. A few light cross pieces are added, to prevent the hawks falling inwards. The oblong cage is four feet six inches by two feet, and has four moveable legs, by which it is supported from the ground when the falconer wishes to leave it.

THE TECHNICAL TERMS used in falconry are the following:—

1.—THE PARTS OF THE HAWK.

The upper mandible is called	*The beak.*
The lower mandible	*The chap.*
The cere of the bill	*The cere.*
The nostrils	*Nares.*
The legs	*Arms.*
The toes	*Petty singles.*
The claws	*Pounces.*
The wings	*Sails.*
The long feathers of the wings	*Beams.*
The first two feathers	*Principals.*
The next two feathers	*Flags.*
The tail	*The train.*
The crop of the hawk	*The gorge.*
The stomach	*The pannel.*
The lower intestines	*The glut.*
The ejected feathers, skins, &c.	*The castings.*

2.—NAMES GIVEN ACCORDING TO AGE.

A young hawk from the nest is	*An eyas.*
A young hawk which can hop but not fly	*A brancher.*
A nestling hawk reared at liberty	*A hack-hawk.*
A young hawk able to take game	*A soar-hawk.*
Young hawks taken wild before Lent	*Lantiners.*
Young hawks taken after Lent	*Haggards.*
Young hawks taken in their migrations	*Passage hawks.*

3.—NAMES FOR VARIOUS ACTIONS OR PROCESSES.

The training of the hawk is	*Reclaiming.*
Fluttering	*Baiting.*
Fighting with each other	*Crabbing.*
When the hawk sleeps, she	*Jouks.*
Her prey which she is flown at	*Her quarry.*
When she strikes it she is said	*To bind.*
When she flies away with it	*She carries.*
When she plucks it	*She deplumes.*
The dead game is	*The pelt.*
When she pursues her game	*She flies at it.*
When, after soaring, she descends with her game	*She trusses.*
When she soars and then descends	*She swoops.*
Her direct pursuit without soaring is	*Raking.*
When she leaves her proper game to fly at crows, &c.	*She checks.*
When the game flies into a hedge	*It puts in.*

4.—THE TERMS USED IN MOULTING.

Moulting the feathers is	*Mewing.*
When she has gone through her first moult she is	*Intermewed.*
A hawk with complete plumage is	*Summed.*
A hawk with incomplete plumage is	*Unsummed.*
A hawk in good condition is	*Inseamed.*
The reverse	*Seamed.*
Mending the feathers artificially is	*Imping them.*
Paring the bill or talons is	*Coping.*

5.—TERMS USED IN TRAINING AND FLYING.

When the hawk is obediently flying round in the air	*She waits on her master.*
The hawk is sent off by	*A whistle.*
She is brought back by	*A lure.*
Flying long-winged hawks at partridges from the wrist is	*Flying out of the hood.*
A couple of hawks	*A cast.*

SECT. 4.—MODES OF OBTAINING HAWKS.

All hawks are either taken from the nest (*eyases* and *branchers*), or they are trapped at a later period, when able to take game themselves (*lantiners* and *haggards*). By the adoption of the former mode they are much more tractable, but they do not fly at their game so boldly or so strongly; and, as taming the hawk is easy enough, whilst teaching them to fly at game is the chief difficulty in falconry, it is no wonder that haggards are preferred for hawking, when they can be obtained; since their full perfection in plumage is an essential to their employment as falcons; but they are of course more difficult to procure, since the hawk is a very cunning bird, and not very easily trapped. When the nest is found the eyas is taken at once, and reared more or less at liberty, or it is allowed to remain under the fostering care of its parents until it is nearly able to fly (*a brancher*), in which stage of development it may be taken by several active men in the trees surrounding that in which it is perched; or by springes of horse-hair, or by bird-lime. The two latter plans, however, injure the plumage a

good deal, and should not be adopted unless it is impossible to procure the assistance of active men or boys. The nests being usually in the same place in each succeeding year, may generally be found by those who have made the matter their business.

HAGGARDS may be trapped in this country with the square-net, or the bow-net, but in either case great difficulty is experienced. The square is thus described by Sir John Sebright:—A net, eight feet in depth, and of sufficient length to enclose a square of nine feet, is suspended by means of upright stakes, into which transverse notches are made, and on which notches the meshes of the net are loosely placed, so that as soon as a hawk strikes against it the net readily disengages itself and falls. The square enclosure is open above, and within it a living bird, usually a pigeon, is fastened as a bait. The colour of the net should assimilate as much as may be with surrounding objects, and the material should be a fine silk. The merlin, the hobby, and the sparrow-hawk may be taken in this way, but the larger varieties, viz., the gyr-falcon, peregrine, and goshawk, are seldom to be thus trapped, and they must be captured either by the bow-net or the hand-net, as follows:—The bow-net consists of a net of dark-green silk, six feet square, which is attached to an arch of wood or metal fixed to the ground, like the handle of a common pail is to the pail itself. The bow works freely backwards and forwards in eyes which are attached to pegs firmly driven into the ground; it is about four or five feet in diameter, and is fixed to the one side of the net by fine but strong cord, the other three sides being firmly pegged down to the ground, but so fastened as to allow the bow to be drawn completely over to the side opposite to that on which the pegs are driven into the ground. By this arrangement the bow-net is scarcely visible when set, the bow then lying on the ground upon the folds of the net, and the whole being concealed by grass, &c., but capable of being drawn over to the other side at the pull of the falconer, when his prey is within his reach. To effect this purpose a long line is attached to the bow, and a live pigeon, or other bird, is fastened down by a string close to the bow-net, so that when the falcon strikes the pigeon it is enclosed by the net, which is rapidly pulled over it by the falconer in concealment. The great difficulty lies in the habits of the hawk tribe, which will seldom strike a bird on the ground; but with patience, I have little doubt that the bow-net would succeed. In this way PASSAGE-HAWKS, both of the long and short-winged kinds, are caught on the continent of Europe, and particularly in the heaths near Falconswaerd, in the autumn, as they pass southwards and to the east. A pigeon forms the usual bait; but, in addition to this apparatus, which is the same as that used in England, a BUTCHER-BIRD (*Lanius Excubitor*), is tied on the ground near the hut of the falconer, and two pieces of turf are so set up as to serve him as well for a place of shelter from the weather, as for a retreat from the falcon. The falconer employs himself in some sedentary occupation, relying upon the vigilance of the butcher-bird to warn him of the approach of the hawk. This he never fails to do, by screaming loudly when he perceives his enemy in the distance, and by running under the turf as the hawk draws near. The falconer is thus prepared to pull the net the moment the falcon has pounced upon the pigeon. The short-winged hawks are all taken in the square-net, as already described for capturing hawks in this country. Sometimes the passage-hawk is taken by large hand-nets similar in principle to the landing-nets used in fishing, but very much larger. With these the hawk is caught by the falconer, who is concealed near a pigeon tied by a string to his hand, and suffered occasionally to fly a short distance. The bird attracts the hawk, who makes a swoop, and is dexterously caught by the falconer while his attention is thus fully engaged.

SECT. 5.—GENERAL MANAGEMENT OF THE HAWK.

THE HOUSING is the domestic economy of the hawk, and upon its being properly carried out depend her health and spirits. I have already described the apartment or *mews* in which they are to be kept. It is strongly recommended by Sir J. Sebright that hawks should be *bathed* every five or six days in a running stream with a shallow edge. Before bathing, they should be lightly fed; and if a running stream cannot be obtained, an artificial pond or a sunken pan of earthenware must be employed. In very hot weather a bath every other day is not too often. The hawks may be unhooded, and fastened by their *creances* to pegs stuck in the ground, and may be left by the falconer to bathe themselves, he retiring to some little distance. But they must not be suffered to indulge themselves as fully and as long as they like, nor must they be allowed to struggle or "bait" when confined by the *creance*, which they will do as soon

as they begin to attempt to fly after bathing. The hood must therefore be again put on, and the hawks returned to their perches. Hawks must also be *weathered*; that is to say, they should be put out on perches which are erected in the open air, and then left either hooded or unhooded, according to their degree of wildness, for many hours a-day, but not in the rain. If wild and unruly, they should be well fed before weathering, which renders them sluggish and disinclined to *bait*.

THE REARING of the eyas or brancher must be carefully attended to. They must be kept warm, but should be handled as little as possible. Sir John Sebright recommends a hamper to be placed in a sheltered situation, about breast-high, in a tree or hedge. The bed of the hamper forms a good stage for the young birds to come out upon, in order to be fed. Beef or mutton forms the food, with the fat carefully removed, and the lean cut into oblong slender pieces. With these the young birds are fed night and morning, the falconer always using the same kind of cry as an accompaniment, which the young hawks speedily get accustomed to, and are impatient for their food as soon as they hear it. The long-winged hawks are usually fed on a high table, the short-winged on the ground. Birds, such as pigeons and rooks, are given occasionally as a variety, and also to stimulate the appetite for that kind of food. If young hawks are not properly fed, the feathers are not well developed, and what are called *hunger-traces* are left upon them. It is said that one day's starvation will leave a mark on the feathers. Sir John Sebright says, "The hunger-trace may be seen as a line of imperfection across the web of every feather, neatly marked, as if a razor had been passed across the wing." When this appears, a raw egg must be added daily to the flesh. When the eyas is fully feathered and capable of flying, she is either confined to certain limits by her jesses and leash, or with her jesses and bells on, she is suffered to be at large, and is then said to be *at hack*. The hack-hawk must be carefully fed and watched, and if she does not come to her usual feeding-time, she must be sought for and retaken by means of a bow-net, or some other device, such as horse-hair springes, &c. Of course the neighbours should be requested to respect the hack-hawk, and not to take advantage of her comparative tameness. As soon as she begins to hawk for herself, she must be confined to the length of her leash, or she will assuredly be lost. But if care be taken to feed them very early in the morning, they may be left at liberty for a long time, as they do not fly at game unless hungry.

THE MEWING, or moulting, must be carefully attended to, as this process is often accompanied by considerable fever and loss of appetite. The moulting commences early in the autumn, and at that time the hawks should be examined for vermin, and, if any are present, treated according to the plan hereafter recommended. The apartment must be warm, but not close; airy, yet free from draughts; the hood should be avoided, if possible, and the beak and talons should be closely *coped*, to prevent her from injuring her young feathers. Bathing occasionally is necessary, but in cold weather the water must have the chill taken off. Mewing-hawks should be well-fed, and should be encouraged to come to the fist as often as possible, for the sake of exercise. Hawks are not to be suffered to fly for six weeks after the completion of the moult.

IMPING is the repairing of broken feathers, and for this purpose the falconer should have a good store of all the wing and tail-feathers of the various species which he has under his care. When a feather is broken it must be repaired as follows:—The broken feather is to be obliquely cut off, and the artificial one exactly shaped to fit it; then, by inserting two needles, and using a little solution of isinglass in spirit of wine, the two may be strongly spliced together. The old falconers used merely a needle dipped in vinegar or salt and water, and trusted to the rust arising from it, for the retaining the two parts in apposition. Diamond cement and white of egg have been recommended; but I have found the solution of isinglass make so secure a joint that it is difficult to detect the point of union; and by a little care, all soiling of the adjacent feathers may be avoided.

THE CONDITIONING of the hawk is the process of dieting and physicking her so as to replace by art what she loses of her natural state. When at liberty she takes no food without feathers or fur, and naturally requires their stimulus to her stomach; usually also she feeds on her prey while lying on the ground, and in doing so she gets some small portion of earth with the feathers and flesh. Hence the falconer, to imitate his great prototye, gives his charge feathers and small bones mixed with the meat, and occasionally a little fine gravel; or, if he has not these readily at command, a little tow or wool. The feet of fowls, rabbits, and hares with the fur on answer

this purpose well, and should be given at night, as the hawk is usually dull till the *castings* have returned. All hawks should have a full meal, called *a gorge*, every four or five days; which is their natural mode of feeding, with light feeding on the intermediate days. The condition is known by the weight or handling, and the amount of food is regulated accordingly.

MEDICINES are sometimes required, and especially purges consisting of from three to four grains of rhubarb, jalap, or aloes mixed with the meat. If the dose is not active enough, it must be increased; and sometimes 10 or 12 grains will be taken by the larger hawks without over purgation. If the hawk is relaxed, a little chalk and a grain or two of cinnamon must be given with the meat. When the castings are returned in a moist state, with small pieces of flesh adhering to them, or covered with mucus, it shows that the stomach is disordered and weak. For this condition five grains of extract of camomile with some cinnamon should be given after a dose of rhubarb daily. If the *mextings or fæces* are black, a grain or two of mercury with chalk should be given with two or three of rhubarb, every other day till they become of the natural colour. Sometimes the hawk has an attack of wheezing, for which from a quarter to half a grain of ipecacuanha may be given, or a little syrup of coltsfoot. If they are afflicted with worms, as much finely-powdered glass as will lie on the point of a large penknife is to be mixed with an equal amount of salt, and put on a piece of flesh and given to the hawk daily.

FOR VERMIN, fumigations of tobacco must be used, taking care to exclude her head; or powdered sulphur may be well sprinkled among the roots of the feathers by means of a powder-puff. The fumigation is effected by tying a large bag round the back of the hood, and then introducing into the bag the fumes of burning tobacco. Care should be taken that there is no escape between the head of the bird and the hood, and to prevent this some soft cotton should be gently introduced at the back.

SECT. 6.—TRAINING THE EYAS AND BRANCHER FALCON.

HOODING commences this part of the education of the hawk, and should be commenced as soon as the young eyas is fully feathered. When first hooding her, the brail, page 251, should be used, and continued till the hood is borne with patience, in order to prevent the bird from *baiting* and spoiling her feathers. If very refractory, the constant dropping of water upon her will soon bring her to, conjoined with deprivation of sleep and low diet; but this is seldom required in the eyas. The next thing is to accustom her to the bells, jesses, and leash, which she bears well enough with her hood on, but without it she will soon pull them to pieces, until prevented by careful watching. The water-dropping acts well here, by taking her attention off her feet; but it is not safe to use it freely, except in warm weather. The perch to which the hawk is attached by the leash is usually a cross-piece of soft wood, or a solid cone of the same material, to the lower part of which the end of the leash is attached, the latter being used for long-winged hawks only. The next thing to be done is to accustom the hawk to the fist, on which she should be first placed while in her hood; after removing this she is in course of time reconciled to her master, and if rewarded with a piece of meat, soon learns to bear his presence without *baiting*. Every time she is wanted to bear any restraint, or to obey her master in any way, she should be rewarded for compliance by a choice morsel. In this way, however much she may resist at first, she finally submits to hood, jesses, and bells, and readily comes to the fist, either to be fed, or simply to the whistle, which invariably accompanies that act. When the hawk will come the length of her leash to the fist, the creance may be added to the former to any length, and the hawk may be suffered to fly short distances, that is, to the length of her creance, from which she may be enticed back to the fist by the whistle. All this is very easy with the eyas or brancher, but with the haggard it can seldom be fully accomplished, and the falconer must content himself with breaking his hawk to *the lure;* and even that is sometimes difficult to accomplish.

THE LURE is useful for two purposes: first, to teach the hawk to fly at game; and secondly, to recover her in case of failure in her flight; or to distract her attention from the game which she is not wanted to devour, by giving her her accustomed food instead. The first step is to feed the hawk regularly on the lure, and when this is freely taken at a short distance from the hawk, gradually increase the interval, but very cautiously, for fear of alarming her fears. Next take the hawk out when very hungry, and let an assistant swing the lure round his head steadily, and at the full length of the cord; upon this the falconer casts off his hawk with the usual whistle or halloo, still holding the *creance*, and the assistant

suffers the lure to fall to the ground, for fear of injury to the hawk by striking it in the air, with the two strings attached. When this lesson is perfect, the assistant, instead of suffering the lure to fall, withdraws it, and disappoints the hawk, which flies by him and then returns, when he may be suffered to strike the lure and feed upon it. In process of time the creance and jesses may be removed, and the hawk enticed to the lure from a considerable distance, and may then strike it in the air, while swinging round the head of the assistant. After a still greater time the hawk becomes so perfect, that she will circle round the head of the falconer, waiting for the lure to be thrown, and is then said to *wait on* him perfectly. While the hawk is feeding on the lure, the falconer should encourage her, and suffer her to finish without alarm, by which she will be shown that she may do this without fear, and will readily suffer herself to be taken after flying. She should also be accustomed to horses, men, and dogs. When this part of her education is accomplished, the hawk is ready for entering to her game.

ENTERING TO HER GAME is effected by letting loose a partridge or thrush, confined by a creance, at the time when the hawk is expecting the lure; she soon spies her prey, and strikes it to the ground, and may be suffered to indulge her appetite without restraint, while the falconer walks round and caresses her. After this she is ready to fly at wild game; but in case of her failure to strike, a live bird should always be carried into the field, which may be thrown up, confined by a creance.

SECT. 7.—TRAINING THE HAGGARD FALCON.

This is not quite so easy a process as that which I have already described for the eyas. The first thing to be done is to put on the hood, jesses, and bells, and to brail the wings; then carefully *cope* the beak and talons with nippers and file. During the early days their meat, which should only be given once a-day, must be washed with water, in order to reduce their courage; and they must be deprived of sleep, either by continual watchings of the attendant falconer, or by water dropping from above on their backs. If the hawk is very wild, the wearing of the hood must be postponed for some little time, till the courage is somewhat subdued by starvation and want of sleep; but the sooner it is put on the better. The falconer must be incessantly occupied with his charge, and by soothing treatment at last teaches her to bear her feathers to be touched without *baiting*. The falconer must live almost constantly with *haggards* before they get accustomed to him, but when they own his presence they "rejoice" in him even more than the eyas. When the hood is borne pretty well, and the hawk is quiet on her perch, she may be fed a little more fully, but not yet upon unwashed meat. Sometimes there is great difficulty in getting the hood on the haggard at all, as the resistance is so great as to threaten destruction to the feathers, or even the life of the bird. In this case great tact is required, but it may always be accomplished by patience and perseverance when joined with starvation and want of sleep. When the hood is well borne, and the hawk becomes tamer, and feeds readily in the presence of the falconer, he may be tempted to approach by throwing him his food at some little distance from the falconer, when he will come nearer and nearer to him day by day, and at last feed freely close to him. Then the lure should be used as the place of feeding, and at last the hawk should be fed slowly on that useful apparatus. Finally, they should be taken out and accustomed to strike the lure in the field; but the haggard can seldom be made to *wait on* the falconer, nor can she be recovered after an unsuccessful flight by its means, but a live pigeon must be let fly, with a *creance* attached.

ENTERING THE HAGGARD is a much more tedious process than the corresponding part of the treatment of the eyas, because so much more care is required lest she should escape. Whatever game she is intended for should be let fly with a string attached; and if this is the heron, the beak of that bird must be guarded with a piece of the elder-tree passed over its point. When a pigeon is used for entering hawks, they must afterwards be disgusted with its pursuit, by letting a succession of them fly at such distances from her as to be quite secure, and in this way tire her out. In the same way hawks may be broken from any kind of birds which they are wished not to pursue.

SECT. 8.—TRAINING THE SHORT-WINGED HAWK.

This is the same as regards feeding, and the use of the bells, jesses, and leash; but the short-winged hawks are flown from the fist, and are never hooded, except for a short time when first taken, or when on the cage. They, therefore, require to be made as tame as possible, by constant carrying on the wrist, and by tiring them out in allowing

them to pull at a hare's foot or bare pinion-bone.

Sect 9.—Preparation for Flying.

All hawks should have a slight meal on the day before flying them, more or less according to the condition and behaviour of the particular bird. Subsequently to flying they should be *gorged*; after which two clear days must intervene before the hawk is fit to be flown again. The feeding should be in the field immediately after flying. Half-reclaimed hawks must be flown very hungry; but excess in this respect does not answer the intended purpose, because it induces the hawk to hover round the falconer in the hope of being fed, rather than to pursue the game at which she is intended to fly.

Sect. 10.—Flying the Falcon or Long-winged Hawk.

Heron-Hawking.—The falcon, which must be either the gyr-falcon or the female peregrine, having been previously entered to the heron, as described at page 256, and fed according to the directions given in the last section, may now be taken into the field to wait for the appearance of the heron. Sir John Sebright thus describes the mode of flying peregrine falcons at herons, as practised in Norfolk:—"A well-stocked heronry in an open country is necessary for this sport, and this may be seen in the greatest perfection at Didlington, in Norfolk, the seat of Colonel Wilson. This heronry is situated on a river, with an open country on every side of it. The herons go out in the morning to rivers and ponds, at a very considerable distance, in search of food, and return to the heronry towards the evening. It is at this time that the falconers place themselves in the open country down-wind of the heronry; so that when the herons are intercepted on their return home, they are obliged to fly against the wind to gain their place of retreat. When a heron passes, a *cast* (a couple) of hawks is let go. The heron disgorges his food when he finds that he is pursued, and endeavours to keep above the hawks by rising in the air; the hawks fly in a spiral direction to get above the heron; and thus the three birds frequently appear to be flying in different directions. The first hawk makes his stoop as soon as he gets above the heron, who evades it by a shift, and thus gives the second hawk time to get up, and to stoop in his turn. In what is deemed a good flight this is frequently repeated, and the three birds often mount to a great height in the air. When one of the hawks seizes his prey, the other soon *binds to him*, as it is termed, and, buoyant from the motion of their wings, the three descend together to the ground with but little velocity. The falconer must lose no time in getting hold of the heron's neck when he is on the ground, to prevent him from injuring the hawks; it is then, and not when he is in the air, that he will use his beak in his defence. Hawks have indeed sometimes, but very rarely, been hurt by striking against the heron's beak when stooping, but this has been purely by accident, and not, as has been said, by the heron's presenting his beak to his pursuer as a means of defence. When the heron flies down-wind he is seldom taken; the hawks are in great danger of being lost, and as the flight is in a straight line, it affords but little sport."

Kite-Hawking.—Some years ago these birds (*Milvus Regalis*) were much used in falconry by the Earl of Oxford, near Alconbury Hill. They are abundant in open countries, but require the gyr-falcon or the female peregrine. The great owl, with a fox's brush tied to it, was used as the lure to draw down the falcon after an unsuccessful flight; the object of the brush being to impede the flight of the owl.

Hawking Rooks requires, as in heron-hawing, a cast of falcons. The tiercels are too small, and haggard or passage-hawks must be employed, not eyases, unless the latter are very bold and strong, and when this is the case they are superior in all respects to the haggard. The rooks mount like herons, but not so high. They must be found in an open country, on the leeward side of their rookery, so as to compel them to fly up-wind.

Wildfowl may be flown at by the various kinds of falcons, according to the size and strength of the fowl. Thus, geese require the gyr-falcon; but both the game and the hawk are so rare as scarcely to require alluding to. Ducks, widgeon, and teal may be taken with the peregrine tiercel, and either the eyas or the haggard may be employed. The hack-hawk is the variety usually employed, being bold enough, yet sufficiently reclaimed for the sport. Sometimes in the old days of falconry, half-tame ducks were let loose from the neighbourhood of a brook, and were then taken with the goshawk; but it must have been a very poor imitation of the more noble varieties.

Partridge-Hawking.—For this sport

eyases are used, and an open country is required. The falconer must be on horseback, with a steady pointer, and one or two spaniels, under good command. When a partridge is marked-down or pointed by the dog, the hawk is unhooded and cast off. He then *waits on* the falconer, if a good bird, at a considerable height. If he ranges too far he may be brought nearer by the hallo and lure; but these must be used with great discretion. This, and the not giving the hawk sufficient time to mount, are the most common faults in the falconer. It is not necessary that the hawk should be within two or three hundred yards of the birds when they rise, if his head is turned towards them, and he is high enough. High-ranging dogs are the best, as the birds lie better to them. The hawks are to be cast off as soon as the dog points with any certainty, as the rise of the hawk prevents the bird from springing. When the partridge rises, the hawk will dart down with great velocity, and either take it at once or force it into a hedge. If the latter, the hawk rises again into the air, and waits for the falconer to push up the bird. The falconer now attends to his hawks, and the assistant proceeds to push out the bird. As soon as the partridge is taken, the falconer alone is to approach his charge; at first walking round him, and gradually drawing near with great caution. At length, by kneeling down, whistling as at feeding-time, the arm may be extended *gently*, and by taking hold of the partridge both may be placed on the fist, after which the hawk may be suffered to devour the head, and is then hooded. If a young hawk does not take the partridge in his first swoop, and if the bird cannot be put up again speedily, after he has *put in*, a live partridge must be thrown up from a bag; and if it is his first flight, he should be suffered to eat it. This will prevent him *carrying*, which is caused more by his fear of being deprived of his prey than by wildness, as is generally supposed. When the partridges are very wild, the company should be drawn up in a line at a distance of 60 yards from each other. They should then gallop across the country, with the falconer in the centre of the line to regulate the pace, which he does according to the position of the hawk which is *waiting* on him. When the birds will not lie to the dog, the hawk is sometimes unhooded and cast off, the moment they rise; this is called, *flying out of the hood*.

LARKS may be taken by the merlin and hobby, which should be used on the same principle as the larger varieties of the falcon tribe. These little hawks mount and swoop in the prettiest style imaginable. Nothing can be more elegant than this sport; but it has not received that attention which it deserves. I have succeeded in carrying it out to a very considerable extent, and can speak from experience as to its perfectibility; but it is so very similar to rook-hawking that it need not be more fully described.

SECT. 11.—FLYING THE SHORT-WINGED HAWKS.

PARTRIDGES are taken by the goshawk, and even by the sparrow-hawk, with one of which Sir John Sebright says that he took a partridge only ten days after his capture by the bow-net. But the sport is very different to the partridge-hawking already described.

PARTRIDGE-HAWKING.—Before shooting flying was introduced, the goshawk was very commonly used for the purpose of taking the partridge; and he may be made to take a great deal of game, and even to fly in a wood. Sir John Sebright expresses his surprise at any one seeing any sport in hawking partridges with the short-winged hawks, in which opinion I beg leave to join: and as it was done only for the purpose of procuring game, which may now be much more readily shot, it is no wonder that its use has been entirely superseded by that of the gun. When a covey rises, if the birds are very small the goshawk may possibly take one at the first flight, but if the partridges are tolerably strong, they will fly twice as fast as this hawk. The goshawk follows the covey at a distance, and in the manner of an owl. When they take refuge in a hedge (for these hawks are too slow for the open country), the goshawk marks the spot with the greatest precision, and after having *made his point*, by rising perpendicularly in the air, he takes his stand upon a neighbouring tree. If his situation be favourable he is allowed to retain it, or otherwise he is called down to the fist. In either case the birds are to be driven out, and he either takes one at this their second flight, or again drives them into a hedge, and takes his stand as before. A great many partridges are taken in this way by the dogs in the hedges, to which they are driven by the hawks, over and above those killed by the hawk himself.

LANDRAILS may be taken in the same way, but as they are of slower flight, goshawks used to them will not fly at partridges.

PHEASANTS, also, may in like manner be taken by the goshawk.

Rabbits are very easily taken by the goshawk, or even the sparrow-hawk; but the latter is hardly strong enough, and is sometimes carried off into the earths of the rabbit, and permanently injured or killed.

Sect. 12.—Expenses of Hawking.

The market is now so limited, that it is quite impossible to set any bounds to the expense which must be incurred in procuring the most rare and valuable hawks. The sparrow-hawk may be easily procured, and the merlin also is tolerably common; but if either of the larger long-winged hawks is desired, considerable difficulty and expense must be encountered. Mr. Pape, gunmaker, of Newcastle-on-Tyne, generally has a few to dispose of in the course of each season, or if he has not, he will, no doubt, give information where they may be obtained.

PART I.

THE PURSUIT OF WILD ANIMALS FOR SPORT.

BOOK V.—ANGLING.

CHAP. I.

VARIETIES OF LAKE AND RIVER FISH.

THE COMMON SALMON (*Salmo Salar*) stands at the head of British fish, as affording the best sport to the angler, and the greatest treat to the *gourmand*, its flesh being rich in flavour, and of a beautiful red colour. It is a fish of large size, sometimes attaining to the weight of fifty or even sixty pounds, and of beautiful proportions. The head is small; upper jaw longer than the lower; vomer furnished with teeth; body slightly arched on the back, which ought to be broad and muscular, and gradually tapering to the tail, which is broad, and ends in a crescentic curve. The colour of the salmon when in season is a purplish-black on the back, softening into a silvery-grey on the sides, and ending in a pure white on the belly. When out of season, these colours are represented by a dull brown on the back, reddish or pale-brown on the sides, and reddish-white on the belly. The male has several small, irregular, and copper-coloured spots on his sides. These in the female are larger, darker, and generally round or lunated. The male is also more slender. The scales are middle-sized, and are easily detached. The average length is from two and a half to three feet. Salmon feed freely on fish and mollusca, but digest their food so rapidly, that when opened their stomachs are generally found empty. Their growth is proportionate to the quantity of food which they can procure, and hence when they reach the sea they increase in size in a marvellous manner, during a very short period. The successive stages of development of this fish are now supposed to be as follows:—The fry are hatched chiefly in the spring, and early summer, and grow very slowly till they are about a year old, up to which time they are called *salmon fry*, and have several transverse bars on their sides. When these disappear, and the fish becomes uniformly silvery in colour, it is about to commence its first migration to the sea, and is called a *smoult*. After the smoult has remained in the sea a few months, it returns to its native river, if possible, and is then greatly increased in size, generally weighing two or three pounds, or even considerably more. They are now called *grilse*; and after a second time descending to the sea, where they again rapidly add to their size and weight, they attain the full dignity and name of salmon. The female salmon deposits her ova in the gravelly beds of mountain streams, where she ploughs a groove with her nose, and is assisted by the male in the whole operation. The size of the salmon does not entirely depend upon the age, but on the nature of the river in which it is bred; some rivers never produce large salmon, whilst others are remarkable for fish of great size. These points have all been recently discussed with great care and ability by Messrs. Shaw and Young, in Scotland, and by Mr. Yarrell and "Ephemera," in England,; but the above conclusions may be considered to embody the present general opinions on the subject, embracing those of all the above authorities but Mr Shaw, who still adheres to the belief that the salmon is two years old before he seeks the sea. The *fence months*, when it is illegal to take salmon, vary in the different rivers; but in most of them that time extends from the 10th of September to the 25th of January.

SALMON, or SEA-TROUT (*Salmo Trutta*).—According to Mr. Yarrell, this fish is distinguished from the common salmon by the gill-cover, which differs in the following points:—The line of union of the operculum with the sub-operculum and the inferior margin of the sub-operculum is oblique, forming a considerable angle with the axis of the body of the first. The posterior edge of the pre-operculum is rounded, not sinuous. The teeth are also more slender

and numerous. The flesh of this fish is very similar in flavour and colour to that of the common salmon, with which it is very generally confounded; and the two are sold indiscriminately by the fishmongers as ordinary salmon. In habits, haunts, &c., they are also alike.

THE BULL TROUT, SEWEN, OR WHITLING (*Salmo Eriox*), is known from the two preceding varieties or species, according, again, to our chief authority, Mr. Yarrell, by the gill-cover, which in the bull-trout presents the line of union of the sub-operculum oblique, forming a considerable angle with the axis of the body of the fish. The teeth are longer and stronger than those of the salmon and sea-trout, and the tail is square. This variety is found in the Tweed, in several of the rivers of Wales, and in Devonshire and Cornwall. Its weight is usually from twelve to sixteen pounds. It is a bold fish, affording good sport to the angler. Its flesh is much paler than the two first described, and not of such high flavour.

THE PARR (*Salmo Salmulus*) is decidedly considered by Mr. Young to be a distinct variety of the *Salmonidæ*, and not, as was at one time supposed, the young of the common salmon, or sea-trout. Mr. Young says that this is clear, because parr are very commonly met with at a time when the young fry of the salmon are all gone off to the sea; but the other side of the argument is supported by the assertion, that as salmon spawn at very late as well as early periods of the year, so *all* their fry are not at any one time at sea. The arguments, however, in favour of Mr. Young's side of the question appear to preponderate, as there seems to be a considerable difference in the shape of the head of the two fish; and in some cases parr are found in rivers which are never frequented by salmon. The parr is a lively little fish, and will take the fly with great eagerness. Except in the form of the head the parr closely resembles the fry of the salmon.

THE COMMON TROUT (*Salmo Fario*) is distinguished by the length of the lower jaw being greater than that of the upper. It weighs from half a pound to four or five, or even, in rare cases, up to eight pounds; and its ordinary length is from ten to eighteen or twenty inches. In shape it is not quite so elegant as the salmon, but it is, nevertheless, a very beautiful fish. The snout is more blunt, and the jaws are thickly supplied with teeth, inclining inwards, and very sharp. In colour it is of a pale yellowish-grey, darker on the back, and nearly white on the belly. It is marked on the sides with several distinct round spots of a bright red colour, each surrounded by a halo of pale grey; occasionally a black spot occurs, especially on the fins. These are of a purplish-brown colour, except the ventrals, which have a reddish tinge. Trout vary so much in different rivers, that no one description will minutely apply to all, but the above will give the general characteristics of the species. The trout feeds like the salmon, and in habits resembles that fish in all respects but the migration to the sea. He is generally found in swift and gravelly streams, and rejects those of an opposite character, though he is occasionally to be met with there, in consequence of the artificial and compulsory interference of man. The spawn is deposited in the same way as that of the salmon, but as the young do not migrate their successive changes and growth cannot be so clearly made out. The spawning time begins in September, in some few cases, but it is not commonly in full operation till October or November, after which it may be said to be completed. The trout is in full season from March to July, but the time varies in different rivers so much, that it is impossible to lay down any decided rule. When in high perfection, its spots are peculiarly brilliant and distinct; the head is small, the body being plump and thick, and the belly silvery.

THE GREAT LAKE-TROUT (*Salmo Ferox*).—Mr. Yarrell defines this magnificent fish by its proportions, which he says are as follows:—The head is to the body as 1 to 4½, depth of body to length 1 to 4; teeth large, strong, and numerous, and in five lines; it reaches nearly the same proportions as the salmon, from which it differs in not migrating to the sea. The flesh is less highly flavoured, and of a much paler colour.

THE CHAR (*Salmo Umbla*) is only found in a few of our northern lakes, and in those of Ireland. Several varieties are known, as the *silver char*, the *gelt char*, the *red char*, and the *case char*, according to the peculiar shade of the colour. It is a beautiful fish, but it is not clearly described, and authors vary as to the peculiarities of its colour and formation.

THE GRAYLING (*Thymallus Vulgaris*) is found only in certain streams, and particularly those descending from granite mountains. It is a very elegant fish, of middle size, seldom exceeding fifteen or sixteen inches, and slender in proportion. The head is small; upper jaw the

longer of the two; teeth small, and spread over the roof of the mouth; the colour of the back varies from a blackish-green to blue, gradually shading into a silvery-grey towards the belly. When first taken, there are several black spots on the back, and some iridescent patches of gold colour on the sides; this appearance rapidly fades, and the general colours soon sober down. The scales are proportionally large. Sometimes, though rarely, the weight is greater than that given above, and in some few cases, graylings have been taken of four or five pounds weight. This is a very bold fish after the fly, but it does not afford such good play when hooked as the salmon tribe. The season is from September to March, after which they begin to spawn.

The Gwiniad (*Coregonus Pennantii*), found in the lakes of Scotland and Ireland and in those of Cumberland, the Powan (*Coregonus Clupeoides*), found only in Loch Lomond and one or two other Scotch lakes, the Vendace (*Coregonus Albula*), found also in the Scotch lakes, and the Pollan (*Coregonus Pollan*), found in Lough Neagh, in Ireland, are four closely-allied lake-fish which somewhat resemble the *Salmonidæ*, but have prolonged snouts, resembling the herring. Hence, the first has been called the fresh-water herring. They none of them afford sport for the angler, and are only taken with the net.

The Pike, or Jack (*Esox Lucius*).—This voracious fish is met with in the gently-flowing rivers and ponds of Great Britain, and is called a pike when above four or five pounds in weight, and a jack if of less than that size. It is a very ugly-looking fish, the head large, the jaws long and savage-looking, and armed with several hundred teeth; the tail is lunated; the colour is a pale olive-grey, becoming deeper on the back, and marked on the sides with several yellowish spots or patches. Sometimes the pike reaches an enormous size, instances having been known in which it was taken more than three feet in length. The food of the pike consists of fish, frogs, rats, the young of waterfowl, or, in fact, anything in the shape of animal food. They spawn in March and April, among the weeds of their favourite haunts. Like all other fish, they are only in high season for the few months before this process is commenced; the flesh is white, and of a good flavour, resembling the haddock.

The Bream (*Abramis Brama*) is more like a flat-fish than any other of the fresh-water fish except the flounder. It is very narrow across the back, which, as well as the belly is much arched, forming altogether almost an oval. It frequents still water like the pike, and is often found in the same rivers and ponds as that shark in miniature. The head is very small, with a pointed snout, small mouth, and no teeth. The colour is a bluish iron-grey on the back, inclining to white on the belly. The bream is rarely above one pound and a half in weight, and is not highly prized for the table, though, when stuffed and roasted like a pike, it is not to be despised.

The Chub (*Leuciscus Cephalus*).—This fish has various names in the different counties of England, where it is also called the *chevin* and *skelly*. It is a powerful fish, but very timid in its nature, and retreats to the deepest holes of the river when there is the slightest appearance of motion in the neighbourhood of its own body. In weight it is from one to four pounds. It is a short, thick, and high-backed fish, with large scales; head and back of a greenish-brown; sides, silvery brown, approaching to yellow in the summer; belly, white; pectoral fins, yellow; anal, red; tail forked, and of a brownish colour. The chub spawns in April, and very soon recovers from that process, being again in season in June. It frequents deep rivers running through alluvial districts, and lives chiefly upon worms.

The Roach, or Braise (*Leuciscus Rutilus*), inhabits the same kind of rivers as the chub, and is a gregarious fish. It has a small, round, leathery mouth, and is provided with a circle of teeth placed in the throat. The roach is as deep, but not so thick as the chub; scales large, and of a pale golden tinge approaching to brown on the back; fins red, as is also the iris.

The Dace, or Dare (*Leuciscus Leuciscus*) is also a gregarious fish. The head is small; body slender; tail forked; colour dusky on the back, varied with patches of pale olive-green; sides and belly, silvery; fins reddish, but not so much so as the roach. It is about nine or ten inches long. Its haunts are unlike those of the roach and chub, inasmuch as it prefers swift gravelly streams, but selects those which are thickly infested with weeds. It is a fish very generally spread over England, but is not highly esteemed either by the angler or for the table.

The Graining (*Leuciscus Lancastriensis*) occurs only in the Mersey. It is merely a variety of the common dace.

The Rudd, or Red-Eye, (*Leuciscus Erythrophthalmus*), is a very rare fish, occasionally found in the Thames and the sea, and in some of the ornamental waters of our

southern parks. There is a great dispute among naturalists as to its characteristics. It is a middle-sized fish, rather more than a foot in length, with a deep and thick body; head small; iris, yellow; large scales; colour somewhat like the dace, but the sides and belly are of a more golden hue.

THE AZURINE (*Leuciscus Cæruleus*) is another fish only found in Lancashire; it resembles the roach in shape, but is of a dull-blue colour, and is called the blue-roach in the county where it is found.

THE BLEAK, OR BLICK (*Leuciscus Alburnus*).—This lively little fish is constantly seen in large shoals near the surface of every still-flowing river. It is seldom more than four or five inches long. Head small and neat; eyes prominent, with a patch of blood-colour below; back, olive-green; sides and belly, silvery; scales large; fins, colourless, and very transparent; tail forked.

THE MINNOW (*Leuciscus Phoxinus*).—This fish, likewise called the *pink* and *minnow*, is to be met with in most of our clear brooks, which it prefers to larger and stiller rivers. It is gregarious, and is in the habit of retreating to the mud and weeds in the winter months. The colour varies much in different localities, from blue to green on the back, and from white to red on the belly. Sometimes it is of a pearly white, which is a colour much prized when the fish is wanted as a bait, and sometimes of a yellow cast. It is chiefly sought after for the purpose of using it as a lure for the trout, salmon, and pike.

THE LOACH, OR GROUNDLING (*Cobitis Barbatula*), is unlike the last described fish in being nearly of the same size throughout its length. It has a compressed head, furnished with a well-marked beard composed of six tufts. It is about three or four inches in length, of a dusky-brown colour. It also is only used as a bait; but for this purpose it is not equal to the minnow, bleak, or gudgeon.

THE COMMON CARP (*Cyprinus Carpio*), is the type of a family which have all a small mouth without teeth, but possessing a bony apparatus in the throat as a substitute. They have only one dorsal fin. The common carp is not a native of Great Britain, but was introduced by the monks to serve the purposes of the table during their fasts. In length it is usually from one foot to one foot six inches. The back is arched and thick; colour yellowish, approaching to brown over the back, and to white under the belly. The mouth has a short beard on each side, both above and below; on the sides are some blackish specks; fins, brown; tail, brown, and forked. Carp feed on worms and insects, and are very prolific, living also to a great age. They are a very wary and cautious fish, and very uncertain in appetite, being sometimes ready to take a bait, and at others obstinately refusing every temptation. The *crucian* appears to be only a variety of the common carp.

THE BARBEL (*Barbus Barbus*), like the carp, has a beard, which has given its name to this fish. This beard consists of four distinct prolongations; two on each side of a very prominent upper lip. The colour of the fish is a silvery-grey, becoming darker on the back, and white on the belly. Scales middle-sized, and rounded; dorsal fin small, and of a blueish-brown; other fins brown, tipped with yellow; tail forked, and of a purplish-brown. They frequent deep but rapid rivers, and are gregarious, feeding on insects and worms. They are not so wary as the carp, and afford good sport to the bottom-fisher.

THE TENCH (*Tinca vulgaris*), like the carp, has been introduced from abroad, for the purpose of supplying the tables of the Roman Catholic population of Great Britain. It thrives in stagnant or slowly-changing ponds, especially those made in loamy or rich soils. It is a thick fish, resembling the carp in shape, and having a small thin beard at each corner of its mouth. Like the carp, it has no teeth. Gill-covers, bright yellow; colour of the body, deep olive, with a tint of gold; scales small, thin, and covered with a thick viscid slime; fins of a dark brownish-purple; tail square. Tench spawn in the spring among the weeds, and the young grow rapidly, so that a pond is soon stocked with these fish, which are of a very superior flavour to the carp.

THE GUDGEON (*Gobio Fluviatilis*), though small, is highly prized from its good flavour, and affording sport to the young angler. It is gregarious, and is taken in immense numbers in the neighbourhood of London. Gudgeon rarely come to the surface, but frequent the bottoms of rapid rivers and brooks, preferring moderately shallow water with a gravelly bottom. This fish has a small beard on the upper lip. It is about five or six inches in length, with a round body and a thick head. Colour, pale-brown on the back, and reddish-white on the belly; fins slightly tinged with reddish-yellow; the dorsal fin and tail are spotted with black.

THE PERCH (*Perca Fluviatilis*) is a very handsome fish, of medium size. Body deep, with a high-arched back; head small, with sharp teeth in the jaws and the roof of the mouth. The edges of the gill-covers are

serrated, with a spine on the lower part. Colours as follows:—Back, deep olive-green, with broad black bars, gradually becoming white towards the belly; ventral and anal fins of a rich scarlet, as is also the tail, though not so distinctly of that colour. The dorsal fin is furnished with spinous prolongations, so sharp that it can scarcely be handled with impunity by the angler. It thrives best in large tidal rivers, where it seeks the point at which the water is usually brackish, and grows there to an extent never seen elsewhere. In stagnant ponds it will live, but does not thrive. It is a slow-growing fish, requiring many years to arrive at its full size. The perch spawns in the months of March and April. It is a gregarious fish, and is very tenacious of life.

THE RUFFE, OR POPE (*Gymnocephalus Cernua*), is generally considered as a variety of the perch, which it differs from in colour, being of a dusky olive, with black spots. In its generic and anatomical arrangements, however, it varies so much as to be classed under a different subdivision of the fishes found in Great Britain. It is very abundant in the Thames.

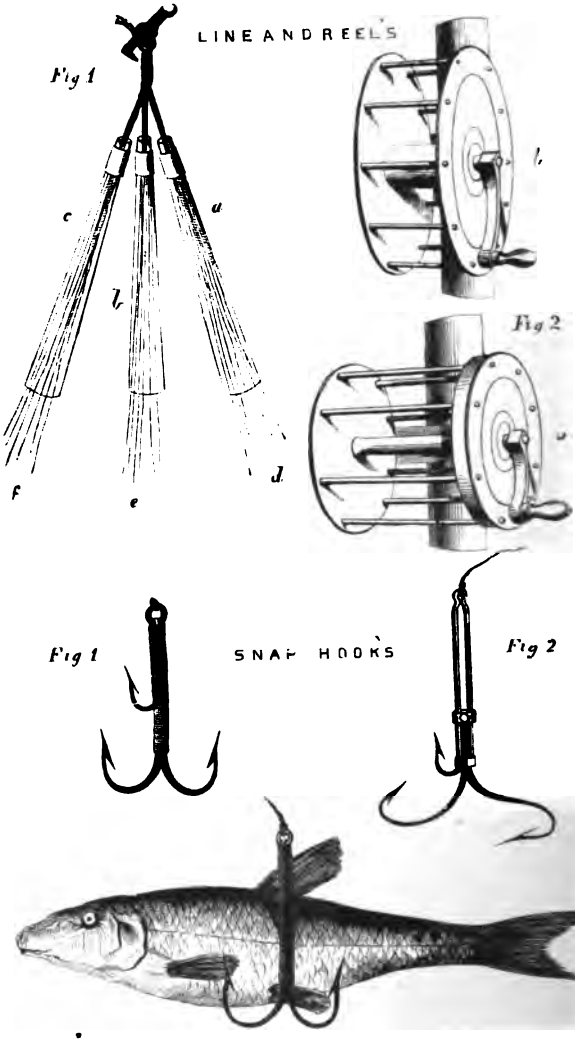
THE STICKLEBACK (*Gasterosteus Aculeatus, G. Spinulosus, and G. Pungitius*).—These three varieties of the smallest fish known in Great Britain differ from one another only in size, and in the number of the spines which are attached to the scales of the sides, but which are more or less excitable at pleasure. The largest of them, which heads the above list, is two inches and a half long, whilst the smallest is not much more than an inch and a half. They are great devourers of the young fry of all fish, and are therefore destroyed as far as possible by the guardians of the best rivers. Without their spines they form good baits for trout and pike.

THE BULLHEAD (*Cottus Gobio*) is known by the enormous size of its head, which is out of all proportion to its body. It is a small fish, and conceals itself under stones, waiting there for its prey, and at the same time saving itself from the attacks of larger fish.

THE FLOUNDER (*Platessa Flesus*) is met with in the Thames in great numbers, and affords pretty good sport to the angler in that river, as well as most others near their mouths. It is a flat-fish of moderate size, seldom reaching to more than two pounds in weight. The upper part is of a dirty brown, with a few dusky-yellow spots; belly, white. It has a row of sharp small spines surrounding the body, and between it and the fins, by which it may be distinguished from other flat-fish.

THE SHARP-NOSED EEL (*Anguilla Acutirostris*), the BROAD-NOSED EEL (*A. Latirostris*), and the SNIG-EEL (*A. Mediorostris*) are the three varieties of the common eel known in Great Britain. They vary only, as their distinctive names imply, in the shape of their noses. In length they are from one to three feet; colour, on the back sometimes a dark-olive brown, at others light-brown; belly, always white and silvery, especially in the silver-eel, a variety peculiar to some rivers. Head flat, and jaws more or less oblongated, but the lower jaw always the longer; eyes very near the mouth, and small, with a reddish iris; gill-opening set far back, and close to the temporal fin. The eel is now ascertained to spawn in the sea, for which purpose it descends from its usual haunts and visits the ocean. It has the power of overcoming all obstacles, because it can leave the water, and, by its serpent-like form, travel over or round any flood-gate or mill-dam in its course, whether up or down stream. It generally chooses dark stormy nights for this purpose; and its migration downwards takes place in the months of August, September, and October, during which time eels are taken in large numbers by the millers throughout the kingdom, who set their nets at the chief water-courses. Eels are generally considered to be viviparous, but they seem, like many other animals, sometimes to produce their *ova* already hatched, and at others to eject them with their contents still in an embryo state. The young first appear on the coasts in March and April, and are then seen in enormous quantities. They soon ascend the rivers, and by various devices they surmount the flood-gates, &c., which impede the progress of other fish; sometimes the millers put straw-ropes for this purpose, up which the young eels swarm in myriads. While ascending the larger rivers they may be seen in a double column, one close to each bank, swimming with great power and speed. These young eels are from half an inch to an inch in length. The eel is a very voracious fish, and will feed upon all kinds of garbage, and upon small fish, frogs, rats, &c.; it may be said to be the great scavenger of our rivers. Eels feed chiefly by night, and they lie chiefly by day in the deep pools of rivers, or under stones or stumps of trees, or among the weeds, or other impediments to the current of water, which they seem in all cases to dislike.

THE LAMPREY AND LAMPERN (*Lampetra*



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Fluviatilis and L. Planeri) are entirely unfitted for giving sport of any kind, and are taken with traps for the purposes of the table only.

CHAPTER II.

APPARATUS USED IN FISHING.

Sect 1.—The Line, Reel, and Hook.

This, which is the essential part of all fishing-tackle, consists of a reel-line, varying in length, strength, and size, according to the nature of the fish which is sought after; of a reel to wind this upon, also varying in accordance with the line; and of a smaller and finer foot-length attached to the line, which is usually composed of silkworm-gut, hair, or gimp, and is armed with one or more hooks, variously baited.

Reel-Lines are made of horse-hair (from the tail), of silk, or silk and hair mixed, of Indian-weed, and of silkworm gut. It is usual for the amateur fisherman to purchase these lines, which are made by a small machine, but sometimes the angler prefers making them himself, and if at all handy, he may do this with great advantage by the following mode, which is much superior to the twisting-machine, because it admits of the introduction of fresh hair with much greater facility.

In Making the horse-hair line, first procure a quantity of good hair, which may be bought at the shops; but if it can be obtained from a good *young* chestnut horse with a flaxen-tail so much the better. When such a horse is docked, a considerable portion of his tail with the hair attached is removed, and that is the very best for the present purpose. A grey horse with a silver mane will give white hair, which requires staining, but the colour of the flaxen mane is as good as any art can give. Young hair is twice as strong as the milk-white hair, which is peculiar to old horses. Next procure three pieces of strong goose-quill, each about half an inch long, and fit loosely into them three pieces of deal three or four inches long; then divide your hair intended for your line into three equal portions; thus, if your line is to be of eighteen hairs altogether, then let each of your quills receive six, leaving about four inches projecting; then push in the sticks gently, and tie the loose ends together, as shown in the annexed woodcut (*fig.* 1). The knot formed by the union of the three divisions is to be attached to some fixed object by a pin; then take out each stick, one after the other, and pass the quill up to within an inch of the knot, replace the stick, and take two of them in the left hand. The remaining stick is to be gently twisted from right to left, and when sufficiently so, passed over the other two also from right to left, when it should be grasped by the left hand, gently keeping up a slight strain upon the knot. At this time the three are in the position shown in the woodcut; then let the angler take hold of *a d*, draw it towards him about a quarter of an inch, allowing the hair to slip through the space between quill and wood; twist it as before, and pass it over to the left. Repeat this with *b e*, and then with *c f*, when *a b* will again occupy the same position as at first. By carrying on this process a line may soon be turned out of great strength, and of any degree of tightness of twist; but if too tight, it will be liable to be entangled, or to *kink*, as it is generally called. As soon as the angler has mastered this part of the process, and has twisted a few inches of line, he must divide the remaining length of his hair into the same number of portions as he has hairs in his line, and cut off one hair at each of these lengths, so that he may splice his line regularly throughout its whole length. As soon as one of these cut ends appears loose above the head of the quill, the stick must be removed, and another hair of full length inserted and twisted in with the rest, and so on with every succeeding break. In this way the line appears, when finished, to be furnished with a series of projecting hairs, but these may be removed without danger with a knife, or scissors, or a taper, previously soaking the whole line for twenty-four hours in water. The line may also be gradually reduced in size at the pleasure of the maker, by omitting to insert fresh hairs. By this mode all links and joints are avoided, and the line is everywhere within one hair of the full strength with which it would be furnished if joined in links in the ordinary way.

Silk and Hair Mixed Lines are those usually sold, and they are the best for all purposes, because they wind so well on the

reel, and are strong and durable. They are made of all lengths, and may be purchased of any of the tackle-makers. INDIAN WEED OR GRASS LINES are also sometimes used, but they do not stand sudden jars, being inclined to snap. A PLAITED SILK LINE is now made without hair, and is very generally adopted. It is much more free from kinking or ravelling than the other lines.

THE REEL is generally used by the angler, partly for the convenience of carrying the line safely, but chiefly in order to allow of rapid extension or drawing in of the line which is wound upon it. Multiplying-reels, in which, by the introduction of machinery, the barrel is made to travel several times to the single revolution of the handle, were formerly much used, but they are now in great measure replaced by the more simple plan of having a large barrel or drum on which to wind the line, instead of a small central spindle. The difference will be seen at once by reference to the woodcut, in which a view of both reels is given (*fig.* 2); *a* being the multiplying reel, and *b* the simple one with a large spindle. By the use of this large drum even a salmon line may be taken in as rapidly as can be desired, and the line lies much more evenly and free from any kind of hitch, with the great advantage that it will give off the line readily to the end.

THE FOOT-LENGTH, or the extreme portion of the line, is composed of finer materials than the reel-line, in order to escape the eye of the fish. It is generally made of pieces of gut, knotted together, and altogether comprising a length of from three to eight feet. Sometimes it is of single gut throughout, but generally of two or three thicknesses of twisted-gut at the end next the line, then of two, and finally of one piece of gut. This material is the produce of the silkworm, and is the unspun substance intended for silk, but made into gut instead by the art of man. The silkworm, just before spinning, is broken in two by the hands of the gut-maker, who, by drawing the pieces apart, obtains gut of any fineness, according to the length to which he pulls it. Considerable knack is required to make it uniformly round and free from weak places, which should be searched for carefully in selecting gut for the single lengths. Horsehair is sometimes used for this purpose, and in some instances gimp, consisting of silk protected by wire. All these various sorts will be treated of under the respective kinds of fishing in which they are employed.

HOOKS are pieces of bent steel-wire, barbed at the point, and of various sizes and forms. They are made according to the respective patterns which are fancied by the English, Scotch, and Irish makers. The round-bend hook is that which is most used in England, the Limerick pattern being chiefly in vogue in Ireland, and the Scotch anglers using some of them the former and others the latter; while many Scotchmen use what is called the sneckbend, differing slightly from both of the above, in being made of a more square shape. The round-bend hook is numbered from 1, the largest salmon size, to 14, the smallest midge. The best Irish hooks, made by Phillips of Dublin, are classed in a different way: F E is intended for the smallest trouting-fly; F, the next; then F F; then, again F F F. After this comes C and C C; then B and B B. The C's and B's have intermediate or half numbers, and above B B the hooks for salmon are known by numbers, beginning with B B, which corresponds with 9, and going on regularly up to No. 1.

Various articles are required for uniting these portions of the line—viz., silk of different degrees of strength, cobbler's wax, spirit varnish, and small scissors, &c.

THE JOINTS used are—first, *whipping*; second, *knotting*. Whipping consists in drawing successive circles of silk, well waxed, tightly around the two objects laid in apposition; as, for instance, two portions of the line, or the line and hook. This is finished off by slipping the end of the silk through the last circle and drawing tight, and, if necessary, repeating the operation again and again; this is called the half-hitch. Knotting is effected by several modes, the most common of which is the water-knot, which is managed as follows:—Lay the two pieces of gut or hair together, one overlapping the other three inches or more, then hold one end in the left hand and form a simple slip-knot upon it, turn the other end to the right and do the same thing, then draw the two together and the knot is complete; by whipping with fine waxed silk this knot is made still more firm. The advantage of this knot is that it will never give way to a direct pull, and yet may always be undone without difficulty.

THE ACCESSORIES to the line are the float and the shot or leads. These are used in bottom-fishing only, and are intended to keep the hook at a certain distance from the bottom. The float is either of quill or cork, and is fixed upon the line by a ring at one end and a sliding-quill at the other.

The shot are partially split and then brought together again upon the line. In this way, by plumbing the depth of the water, and adjusting the float so as to keep the bait at a certain depth, the object of the bottom-fisher is attained.

Box-Swivels and Hook-Swivels may be readily understood from their name, and are used in spinning-tackle, in order to prevent the line from twisting,

Gimp is composed of silk or other material strong enough to resist any straining force applied to it, and protected from the teeth of the fish, or from sharp stones, by fine brass wire neatly wound round. It is made of various sizes and strength.

Sect. 2.—The Rod.

The Rod is the machine with which the line is conveyed to the place where the fish is the most likely to take it, and with which the various manœuvres prior to his capture are effected. It is made of several pieces united by joints, and these are of varying size, length, and materials, according to the kind of fishing to which it is to be applied. It is also sold to suit all purposes in one by changing the top joints, and it is then called a general rod; but though this may suit the pedestrian tourist who wishes to avoid carrying more than one rod, yet it interferes a good deal with the efficiency of both, and especially does it fail as a fly-rod. It is, however, well enough suited to the beginner. The extra pieces are contained in the butt, which is hollowed out to receive them. The specific varieties of rods will come under consideration in each chapter devoted to the particular sport for which they are intended, but I may enumerate them here as the general rod, the trolling rod, the trout fly-fishing rod, and the salmon fly-fishing rod. The materials of which these are composed are ash, hickory, lancewood, and cane, which are united together by brass ferrules. Whalebone is also sometimes used in the top joints of fly-rods; but these are made so much better by the tackle-maker than by the amateur, that it is useless to go into the description of their manufacture. Mr. Blacker, of Dean-street, Soho, or Mr. Farlow of the Strand, will serve the young angler with rods in every variety, and of the very best quality; and if he finds that he cannot afford their prices, which are as low as a good rod can be made for, he can procure plenty at the cheap shops which will answer his purpose much better than any of home manufacture.

Sect. 3.—Natural and Ground-Baits.

The Earth-Worm is the most primitive and simple of all baits, and is that which is generally first used by the juvenile angler, because it is easily obtained, and applied without difficulty. There are several varieties of these worms, known to anglers as the *dew-worm*, or *lob-worm*, the *marsh-worm*, the *tagtail*, the *brandling*, and the *red-worm*.

The Dew-Worm, or large garden-worm, is of considerable size, varying from six to twelve inches in length when extended. The tail tapers somewhat, but in the squirrel-tailed variety it is flattened. In colour this worm is of a dull brick-red, approaching to a crimson towards the head. These worms are obtained either by digging, or by searching for them quietly at night with a candle and lantern on the lawns or paths of the garden. In dry weather they are always out when the dew is falling.

The Marsh-Worm, or Blue-Head, is found in moist and undrained localities, where they may be obtained with a candle and lantern in large numbers during the fine summer nights. In colour they are of a light dirty or brownish-purple. These worms should be kept in damp moss with a little earth mixed with it. A variety of this worm found in land only partially marshy, is called in Scotland the Black-Head or Button-Worm, and is more tough, and therefore better calculated for standing the rough treatment which it must undergo in swift and wide streams. It is an excellent bait for trout.

The Tagtail is common in good strong clays, which are well manured for turnips, mangold-wurzel, &c. It is a small worm, of about two or three inches in length. Head larger, and of a deeper blue than the body, which is a dingy-red; tail, yellowish.

The Brandling is a small worm found in artificial composts, and in rotten tan, or other decaying vegetable matter, of a dirty-red colour, approaching to brown.

The Red-Worm is about the same size as the brandling, which it resembles in all respects but colour, that being in the red-worm exactly what its name implies. It is found in the banks of ditches and sewers. The *gilt-tail* is a variety of this worm, but larger, and of a paler colour towards the tail.

All these Worms should be Scoured, a process which consists in starving them, by placing them in damp moss, neither too wet nor too dry. The worms here are not only deprived of their usual food, but in their efforts to escape they mechanically compress their bodies between the fibres of

the moss, and in that way completely empty themselves of their fæcal contents. Before putting them in the moss, Mr. Stoddart recommends that worms should be placed in water for a few minutes, after which they should be suffered to crawl over a dry board, in order still further to cleanse their skins. They may then be transferred to the moss, as described above. The worms should be examined from day to day, and those which are unhealthy or injured should be removed. When the worms are quite sufficiently scoured, they should be stored for use. Three or four days is the average time required for scouring.

WORMS ARE PRESERVED in the following manner:—Procure some fresh mutton suet, cut it fine, and boil it in a quart of water till dissolved; then dip in this two or three pieces of coarse new wrapper large enough to supply each variety of worm, which should not be mixed together. When these are cold, put them into separate earthen jars, with some damp earth and the worms which are to be kept, and tie over all a piece of open and coarse muslin.

SHRIMPS are used for angling in docks and canals, and are good baits for perch, if used alive.

THE COCKCHAFER is a common bait, but is not of much value in angling, except for chub.

DUNG-BEETLES, of various kinds, are also employed, and some anglers use them after removing their wing-cases. They should be placed crosswise on the hook.

GRASSHOPPERS form good baits for some fish, and are much used for chub in particular. They are met with after the beginning of June till the end of September. The greener and larger they are, the better they take.

BUTTERFLIES AND MOTHS are also sometimes efficient baits, but their artificial representations are more commonly used.

THE EPHEMERA, OR NATURAL MAY-FLY, is used as a bait during the period when it comes forth in countless myriads. By baiting with this fly in May and June success is often attained, putting two flies on the hook at the same time.

CADDIS-FLIES are also used in the same way as the ephemera.

HUMBLE-BEES, BLUE-BOTTLE FLIES, GNATS, and ANT-FLIES are held in estimation by many anglers, as well as the HARRY-LONG-LEGS, and the COMMON HOUSE-FLY.

MANY LARVÆ or GRUBS are used in bottom-fishing, and are of great service in that department. Of these the principal are—1st, *flesh maggots*; 2nd, *beetle larvæ*; 3rd, *caddies*; and 4th, *caterpillars*.

FLESH-MAGGOTS, OR GENTLES, are obtained and scoured in the following manner: Procure any kind of flesh, or the body of any small animal. If there is any difficulty about this, the liver of a horse or cow answers remarkably well. With a knife cut some deep gashes in the substance of the liver or flesh, and hang it up in a shady place, but near the haunts of the blow-fly. In a few days the maggots will attain a lively state of existence; but they require about a week to reach their full development to the green or soft state, and another week to reach their maturity, when they are large and fat, with black heads. The various stages are adapted for different fish. Blow-flies are abroad from May to the end of November, or even to the middle of December in mild seasons. The SCOURING of these gentles is effected by placing them for a few days in a mixture of bran and fine sand, slightly damp. By this process they are emptied of their contents, and rendered tough in their skins. When the object is to preserve them in this state for many days, they must be kept in a very cool place, such as a cellar, or they even should be buried in the earth. Without attention to this precaution they are almost sure to assume the chrysalis condition, in which stage they are useless as baits. A low temperature and exclusion from air and light retard this development; and by burying the carcase of a small animal (after the larvæ are a day old) in a cool place, and confined in a box containing a mixture of dry cow-dung and fine earth, the gentles may be preserved in their larva state during the whole winter. The place selected should be protected from severe frosts, which would kill the gentles, and therefore an outhouse is well suited for this purpose, or any space in the garden well sheltered by a thick shrub, such as the lauristinus.

THE LARVÆ of the various beetles are called by anglers, the *white-worm grub*, the *cow-dung grub*, the *cabbage grub*, and the *meal-worm*. The first is the larva of the cockchafer, and is found in loose loamy soils, especially near the horse-chestnut. It may be easily found by following the plough. The second, as its name implies, is found in cow-dung, and is the larva of several of the beetle tribe. The third is found in the stalks of old cabbages, and often about their roots, and is the larva of two or three varieties of the beetle. The last is found in the meal-tub, is much smaller than the three first mentioned varieties of grubs

and is not so good for angling purposes as the gentle.

THESE GRUBS MAY ALL BE PRESERVED by simply placing them with some of the earth in which they are found, in any receptacle, keeping them afterwards in a cool situation.

CADDIES are the larvæ of the ephemera, or May-fly, as well as the stone-fly and the caddis-fly. They are easily found beneath the stones, weeds, &c., of shallow brooks, and may be stored by putting them in water, with some sand, in a cool place. By placing them in a perforated box, they may be suffered to remain in a running stream, where they continue to grow and thrive as well as in their native haunts. They are not, however, much prized as angling baits.

CATERPILLARS, or the larvæ of the butterfly, are either smooth or rough. The former are not much used, and the latter are so thoroughly imitated by the artificial fly called the palmer that they are scarcely ever employed. There is no doubt that in angling natural products are better than artificial, if they are equally capable of enduring the rough usage required to drag them through the water. In this respect it is that the artificial palmer beats the hairy caterpillar, its original; and hence the latter is almost wholly driven out of the angler's list of baits.

SALMON-ROE is a very favourite and killing bait for trout, and is found to be so destructive that its use is often considered to be a species of poaching. I cannot understand on what principle this odious stigma should be cast upon its adoption, because it may be employed, like any other bait, in open day; and the only objection to it which can be urged is its very great success. No one would call an unerring shot a poacher, simply because he kills more than his neighbours; then why should the bait which is more successful than any other labour under this imputation? It appears to me that every one is straining to effect a certain purpose, viz., the killing of the greatest number of fish, and yet when a certain mode of attaining this object is at hand, its adoption is forbidden because it will ensure what all are aiming at, and by open means too. However, as I cannot discover any real foundation for this crusade against the salmon-roe, I shall include it in the list of baits, and describe its preparation and mode of application to the hook. The roe itself should be collected as near the time of spawning as possible, and should either be preserved whole, or be made into a paste at once. If the former, the best way is to keep it in a jar, with alternate layers of wool. The roe should be carefully separated from its enveloping membrane, and should be sprinkled with salt, as also should the wool. When the jar is filled, it should be tied down with a bladder, and kept in a cool and rather moist place, such as a cellar.

SALMON-ROE PASTE is made by boiling the roe without its envelope for 20 minutes, then bruising it in a marble mortar until it forms a uniform mass. After this add to each pound of the roe one ounce of common salt and a quarter of an ounce of saltpetre; beat them all up together, and keep in a jar tied down with bladder.

SHRIMP PASTE is made exactly in the same way, after removing the shells.

BREAD PASTE is also used as a means of taking fish, and is made from new bread, well kneaded, and with or without the addition of honey. It is either used in the white state, or it is coloured with vermilion, lake, or turmeric. Sometimes stale bread is used, but it requires more kneading, and the addition of gum-water, or soaked greaves, or some more adhesive material. It is often flavoured with the roe of salmon, or other fish; the size of the portion used must vary with the fish angled for. Cheese is also sometimes made the foundation of paste, either by itself or mixed with bread; by constant kneading it becomes perfectly tough, and withstands the action of the water for a long time. A peculiar kind of paste, called *patent paste*, is made by washing away all but the pure gluten. A paste of flour is first to be made in the usual way, then by successive washings in cold water, by degrees the process is completed, care being taken not to dissolve the gluten itself by mixing it up with the water; and to avoid this, after each successive washing, let the paste drain for a few minutes. This paste will keep for any length of time, if protected from the action of the air by wrapping it in sheet-lead.

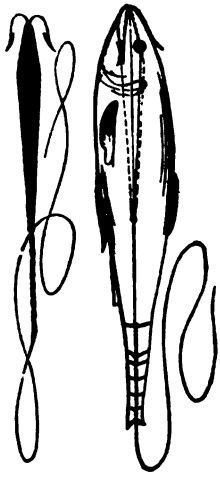
GROUND-BAIT.—The object of this very general accessory to the angler's art is to collect an unusual number of fish to a given spot, and at the same time to do this by offering them a quantity of bait of the same kind as that which is afterwards to be used on the hook, but of an inferior quality to it. Thus if intending to fish with earth-worms, bait with unscoured worms, and fish with them well scoured. Worms in clay-balls are a good ground-bait, because they are not all at once presented to the fish, but appear gradually as the clay dissolves. Mr. Salter, who is a good authority in bottom-fishing, recommends the crumb of a quartern-loaf to

be cut in slices two inches thick, and soaked in water till thoroughly saturated, then squeeze it tolerably dry, and add bran and pollard, kneading all together till a firm mass is the result as tough as clay. *Soaked greaves* mixed with tenacious clay are a very useful ground-bait; and may be made into large masses, and thrown into the water in lumps of two or three pounds weight. *Gentles* mixed with sand are also used, but they should be unscoured, and coarse old carrion gentles for this purpose are the best, as the fish will be attracted by them, but will take the scoured gentle on the hook in preference.

DEAD FISH AS BAITS are usually so arranged on the hooks as to spin or rotate on their axis rapidly, by the action of the current, or by drawing them through the water. This is an unnatural motion, and unlike any movement of any known inhabitant of the river; nevertheless, it takes well with many fish; and, judged by that unerring criterion, it may safely be approved of and adopted. Minnows, parr-tails, gudgeon, sticklebacks, and other small fish, are thus used; but the preference is always given to the first two when they can be procured. There are various modes of baiting with minnows and these small fish, and almost every fisherman has his particular whims and oddities here as well as in other matters connected with fishing. Nothing could more completely disprove the necessity for the adoption of any peculiar mode of baiting than the immense variety in the plans of the most successful anglers. Some use one hook, some two, some three, and others even four. Some—as, for instance, Mr. Stoddart—bait tail foremost, after removing the head; others always take care to present the head to the trout or pike. The great thing to be attended to is to make the bait spin well, which can only be done by producing a slight curve in its body, and by making the line draw it on one side more than the other. In this way, with one or two swivels, which prevent the line throwing any impediment in the way, the baits rotate rapidly if well applied, and the fish is deceived to his ruin. When two hooks only are used, the extreme one is larger than the other (usually Nos. 3 and 5, English sizes), and they are whipped on the same piece of gut or gimp, at an interval of about half an inch clear between them. A baiting-needle is required for most of these hooks, but here it is not necessary, as the larger hook is passed through the mouth and out at the root of the tail, so as to leave the barb free. When this has been done nicely the minnow assumes a bent form, corresponding with that of the hook, and if properly put on, it will spin or rotate when rapidly drawn through the water. But for this purpose its mouth must be closed mechanically, and this is effected either by a leaden cap which slips down over the line, or by the second hook being passed through both lips, and thus holding them shut; or sometimes, in addition, by a few stitches with a fine needle and thread. Colonel Hawker recommends a hook or two to be allowed to float loosely and openly by the side, on a stout piece of gut, but I cannot advise their adoption. The usual mode of employing the third hook is to whip it on to a piece of gut about an inch long, and then to include this gut in the whipping of the second or smaller hook, which it should also match in size. This third hook then lies closely adapted to the side of the bait, but not floating loosely, as advised by Colonel Hawker. The first two are applied exactly in the same way as when two hooks only are used, when the third will lie flat against the side of the bait, and retains its position there by the stiffness of the gut or gimp. This last form is used for the application of the celebrated parr-tail as a bait, which is much used in Scotland; and is strongly recommended by Mr. Stoddart, one of the highest authorities on the subject. He advises all the fins and tail to be cut off, and the head and shoulders to be then obliquely sliced off with a sharp knife. When this is done, the tail-end is to be used forward—that is, nearest the rod, and is then made to appear as the head of a fish. In this mode the gudgeon, dace, or other small fish may be prepared, when the parr is not to be found; and they answer well for large trout or pike. But nothing takes so completely and generally as a good minnow of the proper size, requiring no paring, and fitting the hooks exactly so as to allow the one to project slightly through the tail, while the other closes the mouth. Some other modes are described as useful variations in adapting dead-fish baits, but I believe the double or treble-hook, as above, will suit all purposes where the bait is required to spin rapidly, whether it be the entire fish or part, as already mentioned. The gudgeon, loach, or dace may be divided in the same way as the parr, and will spin remarkably well when used as he recommends that little fish to be employed; as will also the perch itself when deprived of its back fin, or any of the smaller fish which are attractive to the pike. All these various hooks require swivel-traces, single or

louble, which will be found described under he head of Pike-fishing.

MINNOWS ARE ALSO MOUNTED ON GORGE-OOKS: see woodcut, in which *a* represents he hook itself, and *b* the fish and hook ready



or use. Gorge-hooks are either single or louble, the latter being represented in the nnexed woodcut. In baiting this hook, fter it has been whipped to a piece of trong gut looped at the other end, take a eedle used for the purpose, and by its neans draw the gut and hook through the nouth and body of the fish, bringing the eedle out at the root of the tail, and leaving he hook buried in the body of the minnow, with the bend and barb of the hook on each ide of its mouth. After the needle has been brought out, re-enter it on the other ide, so as to include a piece of the flesh of he tail in a loop of the gut. If this is neatly done, it will be found, after drawing he gut tight, that there is no disposition in he fish to slip off the hook, unless very flabby, in which case a single turn of light silk tied tightly round the root of the tail is sure to make all safe. Besides these modes some others are used in pike-fishing, but as they are peculiar to that department, they will be treated of under the head of Pike-fishing.

DEAD MINNOWS MAY BE PRESERVED for use, as well as other small fish, by keeping them in salt and water, or pyroligneous acid and water; but the latter I believe gives them a flavour which fish do not like. Sugar also will answer the purpose, or any kind of spirit—as whisky or gin; but by far the best material is oil, which will keep them sweet, and also stiff, for a great length of time, if they are just raised to the boiling temperature, by immersing the vessel containing the oil and fish in boiling water for a few minutes. More than this renders them tender and liable to break. All fish-bait should be killed by a blow on the head as soon as taken.

LIVE FISH form a very common lure for the larger kinds of fish, and they are used by inserting the hook in some part of the body not necessarily vital. This is called ROVING, and is practised with any of the smaller fish, such as minnows, bleak, gudgeon, &c., in capturing trout, perch, pike, &c. The hook is merely entered in the back close to the fin, and the barb is suffered to protrude above that appendage, and with the point of the hook directed towards the tail of the fish. The line must be shotted so as to sink the fish to the required depth, and it may be used with or without a float. Some other methods of fixing the hooks have been recommended, by which the hook is entered in one part, then made to traverse the fish under the skin and finally brought out at the mouth; but they are so abominably cruel that I must decline having anything to do with their description. All field sports are too much mixed up with an undercurrent of cruelty; but where there is a choice, no man of any ordinary feeling will hesitate in selecting the least severe modes of taking game.

FROGS AND NEWTS may be used exactly in the same way as the minnow, by passing the hook through the skin of the back. They must be well shotted, to keep them down, and must be raised to the surface every four or five minutes, to allow them to respire.

MINNOWS ARE PROCURED for the purpose of using them as baits, either by angling for them, and carefully removing them from the hook, and then placing them at once in a vessel of water, or by taking them with a large hoop-net or fine casting-net. The last plan is that usually adopted, but it requires some little practice for its use, and nothing but an ocular demonstration will give any idea of the mode of employment. Any fisherman will, however, initiate the tyro for a trifling consideration. With the hoop-net they may be taken, by sinking it by means of weights to the bottom of the brook; then, after enticing the minnows by means of small pieces of worms dropped over it, the

string is suddenly raised, and the minnows are caught in its meshes.

MINNOWS MAY BE PRESERVED ALIVE by placing them in a perforated tin or wooden case, and sinking them in any running stream, in which mode they retain their health and liveliness for an indefinite period. They may also be kept alive for a long time in any clean vessel by changing their water frequently; but in this way they are not so healthy as in the above plan. When wanted for use, a small bait-kettle is used with a perforated lid, and capable of containing from one to two quarts of water. This should be kept under the shade of a tree or hedge while the fishing is going on, as the heat of the sun soon raises the temperature of the water to such a height as to destroy the life of the fish, or so nearly so as to cause their death soon after putting them on the hook.

SECT. 4.—ARTIFICIAL BAITS AND FLIES.

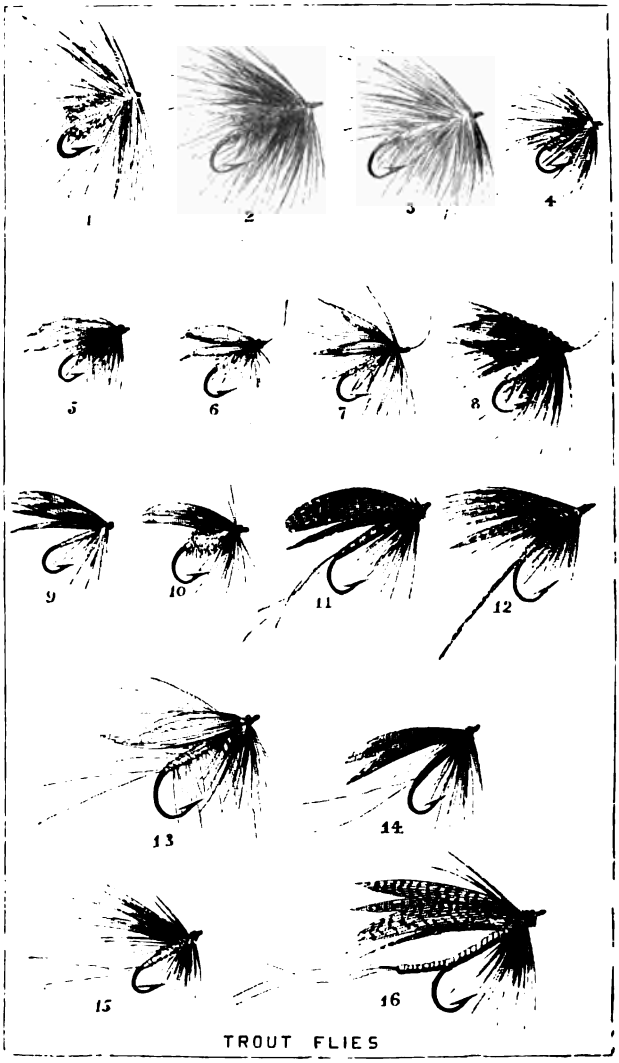
MINNOWS are now manufactured so as closely to resemble the real fish in appearance, but most of them fail in imitating the consistence and softness of the original, and consequently do not take nearly so well as their appearance would lead one to expect. The Archimedian minnow spins beautifully, and so do some others constructed on similar principles, and all will take good fish, but certainly not so well as the real minnow. In many localities, however, these are very scarce, and there the substitute is certainly useful. Mr. Flinn's flexible minnows are far the best, as they are soft and yielding to the grasp of the fish; they are made of gutta percha, painted very closely in imitation of the minnow, gudgeon, &c., and are of sizes suited to all fish, from the trout to the salmon. The Archimedian, on the other hand, is hard and inflexible, and though it spins well, and is to the eye all that can be desired, yet from its hardness to the touch it is very apt to deter fish from a close approach, and is not so successful as Mr. Flinn's imitation. Mr. Blacker, also, has recently introduced a modification of the "devil-bait," with the addition of a pair of Archimedian fins; this is said to spin well, and to take good fish, but I know nothing personally of its properties.

ARTIFICIAL FLIES are so numerous, and their importance is so great, that a great part of the angler's time is generally occupied in mastering a knowledge of their various forms, and the mode of tying them. All of them are composed of three essential parts: first, the hook; second, the gut or loop to attach the hook to the line; and third, the various articles tied on the hook for the purpose of imitating the natural fly. The angler will have no difficulty in procuring his hooks and gut, both of which, however, he ought to select with great care; but he will experience some little vexation and disappointment when he attempts to tie an artificial fly, especially without the practical instruction of some older craftsman. Mr. Blacker, of Dean-street, Soho, has endeavoured to supply this *desideratum*, by publishing a small 8vo. volume in explanation of the whole process of making artificial trout and salmon-flies. His illustrations are most beautifully executed, being engraved on steel, and coloured by hand in the most elaborate manner; and every young fly-fisher who aspires to any degree of proficiency in this elegant art ought to possess himself of this volume. His great practice as a fly-fisher, and also as a manufacturer of flies, renders him perhaps more capable than any other man in the kingdom of performing the task which he has attempted.

THE MATERIALS are first to be collected, and if they are not at once bought in the mass from the fishing-tackle maker, they require some little time to get them together. They should be kept in a case expressly for them; the best form for which is somewhat like that of the common travelling writing-case. In this the body of the case contains the solid articles, such as wax, hooks, scissors, &c., and the lid may be converted into a series of large pockets for feathers, silks, wools, &c.

FLY-MAKING MATERIALS.

1st—Hooks of all sizes.
2nd—Gut, plain and dyed, fine and stout.
3rd—Fine, curved, and common scissors.
4th—Nippers and pliers.
5th—Silks of all kinds and colours.
6th—Wax, spirit—varnish, and brush.
7th—Wing-picker or pointer.
8th—Pair of fine spring-forceps.
9th—Dubbings, viz.: pig's wool, mohair, coloured wools, hare's ear-fur, white seal's or white rabbit's fur, water-rat's fur, cow-hair, squirrel's fur, mole's fur, black spaniel's ear-fur, black bear's hair, &c.
10th—Tinsels, viz.: gold and silver, flat wire, twisted and fretted cords, &c.
11th—Feathers for trout-flies, viz.: wing-feathers of snipe, woodcock, partridge, land-rail, thrush, lark, starling, blackbird, wren, waterhen, coot, and redwing. Body feathers of grouse, pheasant, mallard, teal, and golden plover. Hackles of barn-door fowl in all colours. Neck-feathers of partridge,



TROUT FLIES

starling, lapwing, wren, to be used as hackles. Peacock-herls and ostrich-herls of all colours, dyed.

12th—Feathers for salmon-flies: including those of the turkey in all shades, golden pheasant neck and body-feathers, silver pheasant, common pheasant, and argus pheasant, peacock, jungle-cock. Blue feathers of the lowrie and mackaw, and of the jay's wing. Green feathers of the mackaw. Besides the natural colours, there should be dyed cock's hackles of larger size than for trout, of the following shades, viz.: purple, blue, crimson, scarlet, orange, yellow, green, and brown. Feathers of the kingfisher, swan's feathers for dyeing. Guinea-fowl, bittern, heron (pendant and breast feathers), ostrich, and raven. Few collections comprehend the whole of the above, but the angler may endeavour to obtain as many of them as possible; still he may rest satisfied even if he is not able to fill up every link in so extensive an assortment.

DYEING is required when the natural feathers, &c., are not sufficiently varied. It is an art exceedingly simple in principle, though not always so easy in practice, if the colours are required to be very delicate or brilliant. All the light and transparent shades require for their perfect development either a white material, or one of a shade somewhat resembling the intended one. Thus the pale or bright yellows can only succeed with a white ground; reds will take on brown or yellow; greens on any light colour, but not well on deep brown or red; purple on light brown or red, &c., &c. The chief materials that require to be dyed for the purposes of the angler are silk, feathers, and wool, or hair. The first is usually to be bought of the required colour and shade, and it may therefore be dismissed from consideration. The second and third require to be well scoured before they will take the dye, and for this purpose a solution of carbonate of potash (one drachm to a pint of water) is to be employed, or putrid urine, the material being well soaked, and then washed in it, and finally thoroughly rinsed in clean water. All dyes, or nearly all, are effected upon the same principle; namely, to saturate the substance with the colouring matter while in a soluble state and dissolved in water, and then to add some substance that will convert the soluble dye into an insoluble one, by which process it is retained within the substance of the material, and is rendered permanent, or incapable of being washed out. This latter substance is called a *mordant*. Thus in almost every case the art of dyeing requires the dye-stuff and the mordant to be separately applied; sometimes the mordant being first introduced, and then the dye-stuff, whilst at others the opposite mode is adopted. In some cases, however, the two are applied together, and in others no mordant whatever is required.

THE MORDANTS used in dyeing are numerous; but for our purposes a few only need be employed. These are—first, alum and acetate of alumine; secondly, muriate of tin; thirdly, nutgalls; fourthly, acetate of iron. Alum is most generally used, with the addition of a little cream of tartar, which is added in order to engage the excess of acid when decomposed by the oily matter contained in the material. Half an ounce of alum and half a drachm of cream of tartar are dissolved in boiling water in an earthen pipkin, and the materials are then boiled for two hours in the solution, which is called "a bath." They are then taken out, drained, and washed, and are ready for the dye. For dyeing feathers, purified alum should be used, as the common sort is impregnated with sulphate of iron. The other mordants are used in the same way, in quantities which will be specified when required.

THE DYE-STUFFS are either soluble or insoluble in water. When the former is the case, as it generally is, they are dissolved in it at a boiling temperature in an earthen pipkin. Into this the material, after receiving the mordant, as described in the preceding paragraph, is plunged, and allowed to remain for a specified time, varying according to circumstances. When the colouring matter is by nature insoluble in water as in the case of indigo, its solution is effected by means of some other fluid, with which the article to be coloured is imbued; after which, by the addition of some third body, it is again rendered insoluble, and thus retained in the meshes of the material.

TO DYE BLACK.—Make a mordant-bath of one drachm of acetate of iron dissolved in half a pint of water; boil the materials in this for two hours, then rinse, and boil gently for one or two hours, according to the shade required, in the following dye-bath:—Madder and logwood, of each two ounces; water, half a pint.

PURPLE is dyed by using the above mordant-bath and half the quantity of dye-stuff. If a crimson purple is required, the mordant must be composed of equal quantities of acetate of iron and acetate of alumine.

CRIMSON OR CLARET.—The mordant must be composed of one part of acetate of iron and three of acetate of alumine; then use the madder and logwood as before. If required to be very bright, use the alumine without the iron. Another mode consists in using the alum-bath as a mordant, and cochineal as the dye-stuff; but there is not so rich a result as with the first receipt.

RED.—Mordant of acetate of alumine alone. Dye-stuff, madder or cochineal.

SCARLET is dyed by making a mordant-bath of muriate of tin, two drachms to the half-pint, with the same quantity of cream of tartar. Then make a dye-bath of three or four drachms of cochineal, and boil till dissolved, after which the materials must be gently simmered in it for an hour or two, and then dipped in the mordant-bath, examining carefully to see when the full colour desired is obtained.

ORANGE.—First use the mordant-bath of acetate of alumine, then boil in a dye-bath of madder, and afterwards one of quercitron. The exact shade must be obtained by repeated trials.

YELLOW.—Very strong mordant-bath of acetate of alumine, then dip in a dye-bath of quercitron or turmeric, varying the quantity according to the shade required.

A GOLDEN COLOUR is obtained by alternately using two baths, one of copperas and the other of lime-water (one drachm of the copperas to half a pint of water). By the absorption of oxygen, the protoxide of iron soon passes into the golden-coloured deutoxide.

A BUFF is obtained by a diluted bath of each of the last materials.

BLUE is produced by rendering indigo soluble, either by dissolving it in three times its weight of sulphuric acid, which, however, to a certain extent destroys the toughness of the feathers, or by adding to it equal quantities of potash and orpiment, which make it of a greenish yellow for a time, from which it recovers its colour by exposure to the air; or by adding to the indigo a solution of copperas in lime-water. Both of these last processes, however, require some time and exposure to the air to produce the full blue colour. The proportions are one of indigo to two of the copperas and lime, respectively.

GREEN is produced by dyeing first the yellow colour, and then dipping in the indigo till a proper shade is produced. It must always be remembered that the blue becomes more fully developed by time, and consequently the colour should be at first of a more yellow shade than is required.

The following shades are not so permanent as those already given, but they are sufficiently so to suit the purposes of the angler:—

A PALE GREEN, as required for the green drake, is obtained by using the muriate of tin mordant, and then immersing in a dye-bath composed of prussian-blue and tincture of turmeric, both being used very sparingly.

LAVENDER OR SLATE is obtained by bruised nut-galls and copperas, with more or less logwood according to the shade required.

BROWNS may be procured either by boiling walnut-shells down to a strong solution, or, when required of a more chestnut hue, it may be made of that colour by boiling in a bath composed of a small handful each of sumach and alder-bark boiled in half a pint of water with half a drachm of copperas.

OLIVE is obtained by adding to the green, as above described, a portion of the walnut-dye, more or less according to the colour required. Brown olive requires the foundation to be of the walnut decoction, and only a little green to be added, while green-olive must be fast dyed in the usual way of a green colour, and then submitted to the walnut decoction.

WAX is used either in the shape of the common "cobbler's-wax," or in a transparent form, composed of—white-wax half an ounce, Burgundy-pitch half a drachm, lard half a drachm; melt all together, then cool, and when nearly cold work and draw it well out till it becomes white, opaque, and ductile.

SPIRIT-VARNISH is sold in all the shops of good quality; and, also, good TURPENTINE-VARNISH, which should be obtained of the best coachmaker's quality. It cannot be made in small quantities nearly so well as by the varnish-makers.

Such are all the materials which are necessary for artificial fly-making. We will now proceed to consider the best mode of tying them on the hook.

GENERAL PRINCIPLES OF FLY-MAKING. In all cases the gut and hook should first be selected of such size and strength as will serve to hold the fish which they are intended to capture; then whip the hook on one end of this piece of gut, after flattening it with the teeth, using for the whipping a piece of strong silk well waxed with cobbler's-wax. Sometimes the continuation of this same silk is used for the purpose of tying on the feathers, wool, &c., but usually a finer kind is employed, and espe-

cially where great neatness is required, as in the smaller sized flies. Some fly-makers begin their whipping at the bend, and others at the end of the shank, but this is very immaterial, and is almost always a matter of choice. The most simple fly is made up of a head, body, and legs; the next stage of complication gives a pair of simple wings, then a tail, and finally are superadded, in the salmon-fly, the compound bodies which separate joints and legs, and the wings and tails, composed of various coloured feathers.

THE BODY is made of one or other of the following materials: first, coloured floss-silk wound round the shank regularly, and giving a uniform, smooth, and shining surface, as in the caperer; secondly, of wool, fur, or mohair called dubbings, attached to the tying-silk by the adhesive power of the wax with which it is covered, and forming with it a rough hairy line, which is then wound round the shank from the end to the bend, or *vice versâ*—this forms a rough hairy-looking body, as in the hare-lug and numerous other flies; thirdly, of peacock or ostrich herl, either of which if wound singly or in double layers round the shank, and forms the body of several of the most killing flies—as, for instance, the black-gnat and peacock-hackle; fourthly, of a foundation composed of either of the above materials ribbed with silk or gold, or silver-twist wound spirally round, or sometimes in a circular manner at intervals in the body, or as a terminal joint at the lowest part.

THE LEGS OR FEELERS are generally made of feathers wound spirally round the shank of the hook, but sometimes dependance is placed on the dubbing, which, after it is wound round, is pulled out by means of the picker, and made to take the form of the legs, as in the hare-lug and brown-rail. This, however, answers badly, except in very small flies, as all the dubbings lie close in the water, and do not serve to conceal the bend and barb of the hook like the hackles or any other kind of feather. Generally speaking, the legs are imitated by some of the many-coloured cock's hackles, which the fly-fisher ought to possess, either of the natural colours of the cock, or dyed in one of the receipts given above. These are first tied at the point to the shank, beginning always from the side next the bend and ending at the shoulder, and thus keeping the longest fibres of the hackle outwards. Sometimes the whole body is invested with two or more hackles, after first making it up full with dubbing of some kind. This is seen in the single and double palmers.

THE HEAD is generally made by a few turns of silk, or by the black herl of the ostrich, or that of the peacock's feather.

THE TAIL, when used, is composed in the trout-fly of two or three fibres of some feather, as in the grey-drake; or of two fine hairs, as in the stone-fly. In the salmon-fly it is often much more complicated, and is then generally composed of a part of the crest-feather of the golden pheasant, with or without the addition of a tag of coloured silk or other gaudy material.

THE WINGS in the trout-fly are generally composed of two pieces of the web of some of the feathers enumerated in the list already given. They are sometimes tied on at the shoulder, in the direction which they finally assume, but the best plan, and that which gives the best appearance in the water, is to tie them on first the reverse way to that which they must take when finished, and then turn them back again, and retain them in that position with a couple of turns of the silk. In the salmon-fly the wings are often made up of six different feathers, each called a topping.

A LITTLE VARNISH added with a fine brush to the head, and also to the lower end next the tail, but with great care, prevents those parts from coming to pieces, and greatly adds to the lasting properties of the fly.

HACKLES AND PALMERS.—The mode of tying the peacock-hackle (*fig.* 1), which is one of the simplest of all flies, is as follows:—Begin by whipping the hook on the gut, leaving a loose end of the silk hanging from the shoulder, where the whipping is to be commenced. When the whipping has proceeded to within two or three turns of the bend, include within its folds the ends of two or three peacock-herls, which are to be left projecting beyond the bend, and after making these turns fasten off. Then take a red cock's hackle, and smooth the fibres of it well; with a pair of scissors trim these off at the point, leaving the shank bare for about an eighth of an inch; next include this within two or three turns of the silk left at the shoulder, directing the hackle towards the gut and fastening off the silk. Then taking the bend of the hook between the finger and thumb of the left hand, lay hold of the herls with the right, and wind them carefully round the shank of the hook up to the point where the hackle is tied, where they are to be included in the silk which is still left there and then cut off.

The body is now complete, but the legs are still to be imitated by the hackle, which should be carefully wound round the hook above the herl; arranging the fibres, as it is wound, by means of the picker, and fastening off at last by means of the silk which is still projecting, and left for the purpose. Now cut off the silk at both ends, lay on carefully a very little varnish at each end, and the fly is complete. All palmers and hackles (*figs.* 2, 3, and 4) are made on this principle, substituting various feathers for the cock's hackle, and various dubbings for the peacock-herl.

SIMPLE WINGED-FLIES.—Sometimes a pair of wings are tied on at the same time as the hackle-point, and afterwards the hackle is wound round the shank, and thus serves to keep the wings from lying flat against the hook when in the water. (See the black gnat, hare-lug, yellow sally, oak-fly, caperer, &c.)

THE BLACK GNAT (*fig.* 5) is tied in the same way as the peacock-hackle, using a smaller hook (No. 13), and fine black silk. A small black ostrich-herl forms the body, and a piece of the starling's wing-feather the wings. A very fine black cock's hackle is used for the legs.

THE HARE-LUG (*fig.* 6) is composed of a body consisting of a dubbing from the back of the hare's ear, making it thin and neat towards the tail, and pretty stout near the shoulder. The hook is of the same size as in the black gnat, and the wings are the same. After these are tied, pick out a little of the dubbing to make the legs.

THE YELLOW SALLY (*fig.* 7), is tied exactly like the hare-lug, with the substitution of yellow or buff mohair or fur for that of the hair, and the addition of a fine yellow cock's hackle for legs; wings from a feather from the inside of the thrush's wing. Hook No. 12,

THE OAK-FLY (*fig.* 8).—The body is made of brown mohair and a little hare's ear-fur towards the tail. Legs of a bittern's hackle, or partridge feather, or a furnace-cock's hackle; wings of a woodcock's wing-feather. Hook No. 8.

THE CAPERER (*fig.* 9) is made up as follows:—Body of rich brown floss-silk; legs of a fine red or brown hackle; wings of a woodcock's feather. Hook No. 9.

THE WINGED-PALMER (*fig.* 10), a good common autumn fly, is made on the same plan as the peacock-hackle, but of a smaller size, and with the addition of a pair of wings made from the outside-feather of the thrush's wing. The end of the body is finished with a few turns of orange silk. Hook No. 9 or 10. It is the cock-y-bondhu of Wales.

WINGED AND TAILED-FLIES.—These are made like the last set of flies, except that at the time of whipping on the hook the fibres are included which are to constitute the tail. The body is then formed by the dubbing, floss-silk, or herl, and the wings tied as before. This set includes, among a vast variety of flies, the May-fly, green drake, stone-fly, March-brown, red spinner, &c.

THE GREEN DRAKE OR MAY-FLY (*fig.* 11).—Body made of yellow floss-silk or mohair, dyed a pale yellowish-green, and ribbed with bright yellow silk; tail of two or three hairs of the sable or fitchet, or of fine horse-hair from the mane; legs of a grey cock's hackle, dyed the same colour as the mohair, or of a ginger pile undyed; wings from the mallard's back feather, dyed of the same yellowish-green. Hook No. 6 or 7.

THE GREY DRAKE (*fig.* 12) is made as follows:—Body of pale dun-coloured mohair; tail of two fibres from the feather of the mallard's back; legs of a brown or ginger cock's hackle; wings from the grey feather of the mallard's back, undyed. Hook No. 6.

THE STONE-FLY (*fig.* 13).—Body of red mohair, ribbed with gold or yellow silk: tail of two long fibres from a coarse red cock's hackle; legs a red cock's hackle, carried down over all the body; wings of the hen-pheasant's tail-feather, or of the grey goose wing-feather. Hook No. 6.

THE MARCH-BROWN (*fig.* 14).—This fly is made of two sizes; one on hook No. 7, the other on No. 11 or 12. The body is of brown floss-silk; tail of two long fibres of the red cock's hackle; legs of brown cock's hackle; wings of a woodcock's feather.

THE RED SPINNER (*fig.* 15) is tied on hook No. 7. Body of red mohair, sometimes ribbed with gold; tail of two fibres of a red cock's hackle; legs of the same hackle; wings of a brown mallard's feather.

THE WINGED LARVA of Mr. Blacker (*fig.* 16) resembles the green drake in all but the body, which is prolonged separately from the hook by means of a couple of hog's bristles, which are tied in with it and the tail-hairs, and extend about a quarter of an inch beyond the bend. The silk or dubbing is then carried from the shank to the bristles; and thus the fly has the appearance of a long body. The legs are often made with a dyed feather of the mallard's back, used as a hackle.

EXTRA TROUT-FLIES.—Those given in the preceding paragraphs will suffice for all

1

2

3

SALMON FLIES

common purposes; but they may be varied *ad infinitum* by the angler, to suit particular localities. If, however, he makes himself perfect in the manufacture and use of these, and has the stock of materials which I have enumerated in page 272, it will be at all times easy for him to extend his list, either by imitating the prevalent natural fly, or that which is successfully employed by the anglers familiar with the district. Mr. Stoddart is of opinion that for the trout, the red, brown, and black hackles, with or without wings, and the hare-lug are sufficient for all ordinary purposes. This is perhaps carrying simplicity to an extreme length; but there can be no doubt that the young angler is often overwhelmed with useless flies, as well as other complicated forms of fishing-tackle, in order to suit the trading propensities of the tackle-makers. No doubt in Mr. Stoddart's case the above flies would be more successful than others attached to the line of a beginner; but even the above celebrated *piscator* does not maintain that no others will be more successful at times than the three he has selected, but that there is no absolute necessity for them. This certainly is in accordance with my own experience, as I have known a very successful angler who never possessed any fly but the red and black palmer and the black gnat. Still I have no doubt that at least as great a variety as I have enumerated will at certain times be useful, though some of them will only suit particular months. The following list will perhaps be some little aid to the young anglerwho is anxious to try a greater variety.

THE WREN'S TAIL.—Body of sable-fur and gold-coloured mohair mixed. No wings; legs of a wren's tail-feather, used as a hackle. Hook No. 8.

THE GROUSE-HACKLE.—Body of gold-coloured mohair mixed with the dark fur from the hare's ear. No wings; legs made with a reddish-brown grouse feather, used as a hackle. Hook No. 7.

THE DARK CLARET.—Body of claret mohair, fine towards the tail, and full towards the shank. Wings four, two below from the starling's wing, and the upper two from the partridge's tail.

THE SPIDER-FLY.—Body of lead-coloured floss-silk; legs of a small black cock's hackle below and above, with a hackle made from the woodcock's feather taken from near the butt-end of the wing. Hook No. 7.

THE LITTLE IRON-BLUE.—Body of slate-coloured mohair; tail of two fine hairs from a dark sable; legs of a fine dun cock's hackle; wings of the coot's or starling's wing-feather. Hook No. 9 or 10.

THE BLUE-BLOW.—Body of mole's fur; wings of the tomtit's tail-feather. Hook No. 14.

THE HARE'S EAR AND YELLOW.—Body the dark fur of a hare's ear, mixed with a little yellow mohair; wings of a starling's feather. Hook No. 8.

THE ANT-FLIES are of four kinds—the large and small red, and the large and small black. The red are tied on Nos. 7 and 12. Body of amber-mohair, made large towards the tail; legs of a red cock's hackle; wings of a starling's feather. The black have a body of black ostrich herl, with a black hackle for legs; wings of the blue feather of the jay's wing.

THE MEALY-WHITE NIGHT-FLY.—Body white rabbit-fur, made fully as large as a straw on a No. 5 hook; legs of a downy white hackle; wings of the soft mealy feathers of the white-owl.

THE MEALY-BROWN NIGHT-FLY.—Body of the same size as the preceding, made of the fur of a tabby-rabbit; legs of a bittern's hackle, or a grey cock's; wings the brown feathers of a white owl. Hook No 5 or 6.

SALMON-FLIES are made on the same principle as the trout-flies, but as they are larger, so they are capable of being tied with greater exactness and finish. They are generally of much more gaudy materials than the trout-flies; and in this respect they have latterly been used still more richly coloured than was formerly the case, even in Ireland. Until lately, very sober salmon-flies were ordinarily used in Scotland, the prevailing colours being grey, brown, buff, and brick-dust; but now it is found that a much more brilliant set of colours will answer far better, and the Irish favourites, viz., scarlet, bright yellow, blue, and green, are the fashion, united with less bright toppings—as, for instance, the tail-feather of the pheasant, or the back or breast of the bittern or turkey. In Wales more sober flies are still in vogue; straw colours, natural mottles, and pheasant or turkey feathers being considered the most killing. Tinsels are, however, approved of in all three localities, and are used more or less in almost every salmon-fly. In nearly all cases this fly consists of a body, a head, legs, and tail, and wings of a very compound nature; but the mode of tying is very similar to that adopted in trout fly-making. Most salmon-flies are tied with a small loop of gut attached to the shank, instead of, as in the trout-fly, a full length of that material; sometimes a bristle or a piece of

wire is bent for the purpose, and again in some cases the gut, either plain or twisted, is tied on as in the trout-fly. Whichever mode is adopted, the end or ends of the gut or bristle must be shaved off, and moulded with the teeth into slight ridges, so as neither to present an abrupt and unsightly edge where they leave off, nor to be so smooth as to be liable to slip from the hook. This eye or length of gut is to be first whipped on to the hook in the usual way with strong waxed silk, which is then to be fastened off and removed; and for the subsequent tying, a finer and generally a bright-coloured silk adapted to the particular fly is to be employed. We will now enter upon the construction of six salmon-flies, which are given in the plates annexed, of the exact size. Nos. 1 and 2 are well suited for either Scotland or Wales, and for comparatively clear waters; the remainder are calculated for more turbid water in Ireland or Scotland.

THE SALMON-FLY, No. 1.—After tying on the loop of gut, take a piece of crimson silk about half a yard long, and fasten it on at the bend, leaving an end to reach beyond the shoulder; next take a part of a golden-pheasant's crest-feather for tail, and tie it on the upper side of the bend, also including a flat piece of gold tinsel; then dub the silk, after waxing it, with crimson mohair, and lap it round the shank for about one-third of the length; when arrived at this stage, tie in the point of a long and coarse cock's hackle, dyed crimson, then proceed with the rest of the silk and dubbing to complete the body. As soon as this part is finished, the dubbing must be removed from the remainder of the silk, which must be fastened off; now take a piece of the tail of the pheasant of the requisite length and substance for the wing, and a single herl of the peacock for the head, and tie them on firmly one above and the other below the shoulder of the hook, using the other piece of the silk left projecting at the shank-end, and laying the feathers for the wings either at once where they ought to go, or else tying them first the reverse way and then turning them over, and keeping them down with an extra turn or two of the silk over the root of the wing; fasten this off, and proceed to finish the body, for which purpose the hackle is first rolled round till it comes close under the wings, where it is fastened off, and then the gold tinsel is wound several times round the bare hook under the tail, then once over it, and afterwards spirally round the shank, following the hackle till it arrives at the shoulder, where it also must be fastened off, and neatly cut off with the hackle. The fly is now complete, with the exception of the head, which is made with the peacock's herl wound round the part of the shank left projecting beyond the wing, and is fastened with the same piece of silk as the wing, which fastening receives a touch of varnish with the brush kept for the purpose. This is one of the most simple of all salmon-flies, and is well adapted for the practice of the young fly-maker. (See *fig.* 1.)

SMALL SALMON OR GRILSE FLY, No 2.—This is tied almost exactly on the same principle as the last, but the materials, &c., being different, it presents when finished a lighter and somewhat brighter aspect. The body is of brown mohair or weasel's fur, the last joint being of bright yellow floss-silk, finished off with a single turn of gold tinsel; tail of six or seven fibres of the golden-pheasant's crest-feather; wings of two portions, the outer part being of the grey feather of the mallard, the inner, of the yellow part of the web of the hen pheasant's tail; a reddish-brown coarse cock's hackle is rolled over the whole of the mohair forming the body, and with it a piece of silver twist. The head is composed of a few turns of the tying silk only, without any other materials. (See *fig.* 2.)

GAUDY SALMON-FLY, No. 3.—After whipping on the loop, a portion of golden-pheasant's tail and a piece of silver twist are fastened on to the bend of the hook; after which the silk used in the process is dubbed with blood-red mohair, with which one-third of the shank is covered, then another third with orange, and finally, the remaining third with deep green-dyed wool. Corresponding with each division, and before proceeding to the next, a cock's hackle of the same colour as the body is tied on, and wound spirally round, finishing it off and tying it down with the silk used for the dubbing of each division. After completing the last division, the point of a bottle-green or purple cock's hackle is to be tied in, together with a pair of wings composed of two full golden pheasant's crest feathers, with two toppings of the yellow crest of the mackaw under; and in addition, a black ostrich herl for the head. After the wings are partly tied on, and before they are reversed, the silver twist is wound round, the purple hackle is then turned round and finished off; after which the wing is reversed and tied down, and the herl formed into the head in the usual way. It is a very light and taking fly in the water. (See *fig.* 3.)

SALMON FLIES

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GAUDY SALMON-FLY, No. 4. — Tail of two slips of brown mallard's feather, with a thin topping of golden pheasant's crest. This is tied on *after* making a short joint at the bend of the hook of gold tinsel and orange floss-silk. The tinsel is carried on under the latter, and is left for further use. Next tie in a black ostrich herl, and turn it round three times closely together, finish off and remove the end; then dub the silk with crimson mohair or wool, and make up one-quarter of the shank with it for body; tie in a black cock's hackle, and make up another quarter by dubbing the silk with scarlet wool; then another quarter with the crimson, and tie in when finishing this part a bright-red coarse cock's hackle. Now wind the black hackle up to the last quarter of the body, following it up with the gold tinsel, and fasten and remove the ends of both. Next take a pair of wings composed as follows, placing one of every sort of topping on each side in a corresponding manner: first, two long fibres of red mackaw; secondly, two portions of reddish-black mottled turkey's feather, not quite so long; thirdly, two portions of the back feather of the golden-pheasant; fourthly, two short feathers of the blue lowrie or mackaw. These are to be tied on above the shoulder, and a piece of dark guinea-fowl's back feather below; also a black ostrich herl for head. In tying on wing-feathers of this compound sort, pinch them flat between the finger and thumb, and do not attempt to tie them on the reverse way. After the wings are secure, and also the guinea-fowl's feathers for feelers, wind the last red hackle as a support to them, and then finish off with the herl for the head. (See *fig.* 4.)

MEDIUM SALMON-FLY, No. 5. — First whip on the loop as usual, then commence by fastening a piece of silver plait or braid, which is to make one turn at the bend of the hook, and is to be afterwards concealed by some turns of purple floss-silk for about the eighth of an inch; next tie in for the tail a fine pointed red cock's hackle and a golden-pheasant's crest feather projecting beyond it; then a black ostrich herl, which is to conceal their root by making a raised ring of black above the silver braid, which is now allowed to hang over ready for use. The body is then made up of three equal portions of floss-silk, orange, yellow, and lilac, over which the silver braid is to be spirally wound. Next tie at the shoulder a blue jay's wing-feather, to be used as a hackle, and then a compound wing of the following dubbings: first, a large piece of brown mallard's feather; secondly, a fibre on each side of the green or blue mackaw; thirdly, a dyed crimson cock's hackle on each side; fourthly, two slips of bustard's feather. Below this is to be tied a long tag of the short herls at the root of the ostrich feather, and surrounding the shoulders of both the wing and the feelers a portion of reddish mohair is tied on, and afterwards picked out so as to shade off gradually over both. Finally, a head is formed with a few turns of well waxed silk. This is a very good and useful fly, and will take in a medium state of water, being neither very gaudy nor quite plain. (See *fig.* 5.)

A VERY GAUDY SALMON-FLY, No. 6.— Begin as usual, then fasten on at the bend a piece of tying silk, half a yard long; well wax it, and then lay on, first of all, at the bend two or three turns of flat gold tinsel, which fasten off with the silk; next include in the silk the tail, consisting of a golden pheasant's crest feather, a small bright crimson cock's hackle, dyed, and three or four fibres of a pale-green mackaw's feather. Now tie in a short tuft of crimson wool, surrounding the hook, and do this either by using it as a dubbing or otherwise at discretion. In fastening this off, include a piece of twisted gold cord, and then dub the silk with snuff-coloured wool, mohair, or pig's wool, with which the lower half of the body is to be made up; finishing the upper half with crimson wool as a dubbing. In the interval between the two dubbings, tie the point of a large and coarse crimson-dyed cock's hackle, and, before finishing off the crimson dubbing, tie on first the feather of a cormorant's neck as a hackle; a dark guinea-fowl's feather will do, in the absence of the cormorant's feather. Next wind the gold cord spirally round the whole body, then lay down the crimson hackle, and finally the cormorant's neck hackle, tying each down *seriatim*. A very large and handsome compound wing is now tied on, and with it a black ostrich-herl for the head. The wing is composed of the following toppings: first, two from the golden-pheasant's or bustard's tail feathers; secondly, two fibres of the red mackaw; thirdly, two of the blue mackaw; fourthly, two of the bustard or brown wood-duck's feather. Under this lies the cormorant's neck feather, which being used as a hackle, appears above and below the shoulder of the hook. This is a good spring-fly, and is the largest ordinary size suited for Scotland or Ireland.

SEA-TROUT FLIES may be made of sizes and colours intermediate between the trout

and salmon-flies. They are tied of all colours, and with or without the addition of a gaudy tail of golden-pheasant fibres, and tinsel wound round the body. The following size and form, however, will suit the trout in lochs, and the average size of the sea-trout when ascending from the sea. The body is of brown mohair, legs of a black cock's hackle; wings of a brown mallard's feather; head of plain waxed silk. Hook No. 5 or 6. A good variation consists in using purple or scarlet dubbing for the body; red or lilac-dyed hackle, and the green-dyed feather generally used for the May-fly for the wings; with a tail of a few fibres of the common pheasant's tail feather. Numberless variations of these flies are made and sold, but the whole of them are fanciful creations of the maker's brain, and not imitations of any living insect. The fisherman, therefore, may please his own fancy, and try his skill in any way that strikes him, and perhaps the more novel the fly the better it may succeed, though there is still a considerable section of good anglers who adhere to the old-fashioned flies called the butcher, the doctor, &c., but I fully believe that any slight variation or alteration from the annexed models, according to the contents of the angler's stock of materials, will be just as likely to succeed as the celebrated "ondine" of Ephemera, or the new "spirit-flies" of Mr. Blacker. The whole of the above set are tied after the models of the last-mentioned maker's flies, but differ considerably from those published in his very beautiful series of plates. The change, however, is in favour of the fisherman, as I believe the flies will be found to be equally killing, and not near so expensive or difficult to tie as those published by him; nevertheless, I should strongly advise every fisherman to procure his book, and study his models for himself; they are so beautifully engraved, and coloured by hand, that the fly-maker can scarcely fail in detecting their mode of tying; but he must not expect to equal them in beauty, for even Mr. Blacker himself cannot by any possible degree of neatness come up to the delicacy of finish with which he has endowed his painted imitations. This caution I have added, fearing lest the tyro should give up his task in disgust, and without the slightest wish to detract from the merits of a performance, the utility of which, with the above caution, I am ready most fully to allow.

Sect. 5.—The Landing-Net, Gaff, Basket, &c.

The Landing-Net (see *fig.*) is merely a hoop with a handle to it, and armed with a net for the purpose of taking the hooked

fish out of the water, without danger to the tackle or of losing the fish. It is generally now made with a hollow handle, to take the top joints of the rod, and this handle screws off the ring, which is also jointed, for the convenience of carriage.

The Gaff and Landing-Hook are constructed for the same purpose. The simple hook now used, attached to a firm handle, inflicts the least severe wound, and is more manageable than the gaff.

The Basket or Creel is slung over the shoulder by a belt, and is made of various sizes to suit the probable amount or weight of fish expected by the angler.

Fish-Bait-Kettles are made of tin, with a perforated lid, and a handle to carry them by.

The Drag-Hook is a long line of strong whipcord wound on a thumb-reel, and armed with a three-hooked blunt drag weighted with lead, so that when a hook is caught in weeds or other impediment, the drag may be thrown on the same spot, and the weed dragged away with the hook, or at all events the greater portion of the line may be saved.

The Clearing-Ring is intended for the same purpose, and is a jointed-ring of heavy metal which opens and closes again with a catch. It is attached to a long line like the last, and is passed upon the end of the rod

open, and when closed is slipped down the reel-line as low as possible, and then drawn to land, bringing sometimes the hook and obstacle with it, but generally breaking the casting-line near the hook or about the shot. This does not act so well as the drag-hook when a float is used.

THE BAIT-BOX is merely a flat box perforated with small holes in the lid, for containing worms, or gentles, or dead minnows, in bran.

THE DISGORGER is an instrument for removing the hook from the throat of those fish which swallow their bait, and is made of various forms. One end should be forked, and the other perforated with a hole, and ending with a sharp-cutting round surface like a spatula.

CHAPTER III.

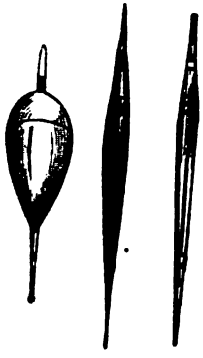
BOTTOM-FISHING AND TROLLING.

SECT. 1.—THE FISH ANGLED FOR IN THIS WAY.

EVERY fish enumerated in the first chapter may be taken by this mode of angling; even the noble salmon and the wary trout may thus be captured. But almost all require some slight modification of the apparatus or bait employed, and of the mode of using them; and therefore each must form a subject to be studied by itself. Commencing with the smaller varieties of fish, and those most easily caught, I shall take all in the order of their usual presentation to the young angler. With each variety it will be my purpose to specify—first, the kind of rod, hook, and line to be used; secondly, the best bait; thirdly, the time and place best suited for each kind of fish; and fourthly, the mode of fishing.

SECT. 2.—FISHING FOR MINNOWS, AND SIMILAR SMALL FISH.

THE ROD, LINE, AND HOOKS for the minnow should all be fine and delicate, especially the last, which must be of the smallest size. Three or four hooks should be whipped on fine gut or strong horse-hair, and attached to a short line of horse-hair or silk, leaving the hooks each about three or four inches longer than the one next above it. This is better than the paternoster line, which will be described in section 3. A crow-quill float, and any light but stiff rod, will complete the angling requisite for this fish. A plummet may be wanted to obtain the exact depth of water, but the eye is generally a sufficient guide.



THE BAIT should be of very small red worms, or pieces of them.

MINNOWS ARE FOUND from March till Michaelmas in small gravelly brooks, and sometimes in large rivers. They take the worm freely all day, especially in warm still weather.

THE LOWEST HOOK AND BAIT SHOULD BE SUFFERED to float tolerably near the ground, and the highest at mid-water, above which these fish seldom feed. At the slightest indication of a bite the rod should be rapidly raised, as by this means many minnows which would otherwise be lost will be taken, while the worm is only partially in the mouth. In this way it is that the juvenile angler, with his crooked pin, succeeds in catching this little fish.

THE STICKLEBACK may be taken exactly in the same way. They form an excellent bait for the larger kinds of fish, with their spines removed.

THE BULLHEAD lies under stones, and it is therefore to be angled for with a single small hook, and the bait must be suffered to float along very near the bed of the river. These fish are very voracious, and rush out with great greediness upon the bait as it passes by their place of retreat.

THE LOACH also may be taken with the same kind of tackle and bait; but as it is neither a good fish for the table nor suited

to the palates of larger fish, it is seldom sought after. None of these fish require ground-baits, as they are also so plentiful when they exist as to be easily obtained in large numbers.

Sect. 3.—Bleak-Fishing.

The Rod, Line, and Hook.—Two kinds of line are used for this fish—one similar to that described under Minnow-fishing at page 281; the other, usually called *a paternoster line*, which is made as follows:—A bullet is attached to a strong line, and is dragged along the bottom of the river by it. A few inches above the bullet a strong and long bristle is whipped at right angles to the line, forming a cross with it (hence its name). To the ends of this bristle fine hooks are whipped in the ordinary way; and at intervals of seven, eight, or nine inches up the line other bristles are attached in a similar manner. In this mode four, six, or eight baited hooks are dragged along at intervals above the bed of the river, each hook being kept from entanglement by the stiffness of the bristles.

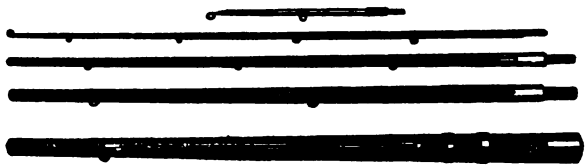
The Baits for the bleak are gentles, red-worms, caddis, paste, &c. **Ground Bait** should be used when it is intended to take any quantity of these fish; but as they are not considered very good eating, it is seldom that this amount of trouble is taken.

The Haunts of the Bleak are exceedingly extensive, it being found in almost every British river. Mid-water is the best general depth to angle for them; but in warm weather they swim very near the surface, and in cold, quite on the bed of the river. In the former case they prefer the fly, and may then be taken in large numbers by whipping with a small black gnat, which forms a very good introduction to the young fly-fisher, as I shall hereafter show. They spawn from the middle of March to the end of April.

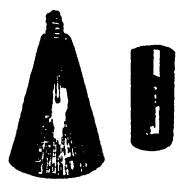
In Fishing for Bleak there is no great art; all that is required is to pull them out at once, but not so rapidly as with the minnow, as they do not adhere to the worm with the same pertinacity as those little fishes do.

Sect. 4.—Fishing for Dace and Roach.

The Tackle for these fish is the same for both, and they may be taken precisely in the same way in every respect. **The Rod** should be very light, but yet stiff and long. It is generally of bamboo or cane, about seventeen or eighteen feet long, or even a foot longer, as it is a most essential point in this kind of fishing to command a great extent of water without showing the person, and yet to drop the bait very gently into it. A light **General Rod** answers the purpose pretty well, and the spare tops for fly-fishing will avail for common purposes in that department. Such a rod should be about seventeen feet long, and made of hickory or split-cane; and will suit either for trolling, spinning, or barbel-fishing with



the lob-worm. (See woodcut, which gives a good idea of the common general rod in its cheapest form, with a spare top for fly-fishing.) The **Line** should be very fine down to the **Float**, which should be of swan-quill. Below the float it should be either of single hair or fine gut, with the knots unwhipped with silk in order to be more invisible. The length of hair being longer than those of gut, the knots are not so frequent; but as the hair is not so strong as the gut, more dexterity is required in landing a large fish. The **Hook** should be No. 10 or 12; and enough split-shot should be attached to the line, beginning about a foot above the hook, to immerse the float three-fourths of its length. The shot



should be No. 1 to 4. A plummet is required to ascertain the depth of the water, of either of the forms given in the annexed woodcut, one of which is of solid lead, the other of sheet-lead rolled upon the line.

THE BAITS FOR ROACH AND DACE are any of the following:—Gentles, paste coloured with vermilion, worms well scoured, and grubs or salmon-roe; the two first being almost exclusively used in the neighbourhood of London. GROUND-BAITS are very generally used, and should be composed of some of the above baits, used on the principles described in page 269.

THE LOCALITIES best suited for dace and roach-fishing are moderately rapid and deep streams. Dace are fond of mill-streams, but are also to be found in more sluggish parts of the rivers. Both are chiefly to be found at the bottom. THE TIME when roach are in season is from August to the following spring. Dace spawn in March and April, but soon come in season again, and may be taken from June to December.

THESE FISH MAY BE ANGLED FOR in the following manner:—First, plumb the depth and allow your bait to float near the bottom, by adjusting your line to the required length. Then keep your eye on the float, and when you see it move downwards from the biting of the fish, strike smartly, but gently. The rod, line, float, and bait ought to be perpendicular to one another, and no more line should be used than necessary, so as to loose no time in striking; which evolution should be from the wrist only, the arm being nearly motionless the while. When the fish is securely hooked great care must be used in landing him, as he will break the line inevitably if he is jerked, or if not carefully humoured, especially if hair is used in lieu of gut.

GRAINING, RUD, AND AZURINE may be taken in the same way as the above. Rud require a rather larger hook, and a coarser line will not interfere with their capture.

SECT. 5.—CHUB-FISHING.

THE CHUB is a larger fish than the dace, but otherwise very similar in habits and appearance, so that a young chub is often taken for an old and mature dace, and *vice versâ*. Several modes of taking this fish are practised, one of which is similar to that already described for roach and dace, but requiring a larger hook and stronger tackle. Being a very violent fish when first hooked, although soon giving in, it is very apt to break fine lines. It also frequents weedy places and stumps of trees.

SINKING AND DRAWING is therefore practised, because by this mode the line is not so likely to be entangled as with the ordinary line and float. A strong rod and line are used for this purpose, without a float, and the line is shotted so as just to sink it. When the hook, which should be about No. 6, is baited, drop it gently in some clear place and suffer it to sink to the bottom, then immediately draw it up again as obliquely as the weeds, &c., will allow, and with a quivering or gently jerking motion to imitate the actions of aquatic insects. Chub are also taken in large numbers by dipping with the natural fly or humble-bee, or with a very good imitation of the latter which is sold by the tackle-makers.

SEC. 6.—GUDGEON-FISHING.

THE TACKLE FOR THE GUDGEON should be as fine as that for the minnow, and the hook or hooks No. 8 or 9. Very fine shot also must be used, and a light quill-float.

THE BAIT which is the most killing for gudgeon is the red-worm, next to which is the gentle or caddis-worm, and then come the various pastes. Instead of ground-baiting, raking the bottom with a long rake is practised, which has the same effect in attracting the fish, and in which alone gudgeon-fishing differs from that described in the first section of this chapter.

In the Thames gudgeon are taken in great numbers from the punt, but in smaller rivers there is no necessity for this accessory. Gudgeon spawn in April, and by the 1st of June are in good season, after which they may be taken in almost all our rivers.

THE HOOK must always trail on the ground, as this fish invariably feeds there. It should be steadily drawn along, or suffered to remain quiescent, some fishermen using several rods at once. The moment a bite is seen, the wrist should be raised and the fish landed, as it is too small to endanger the tackle, however light and frail.

SECT. 7.—FISHING FOR BARBEL.

THE LEDGER-LINE is that most commonly used for taking this fish, and may be described as follows:—The line should be of single gut, three or four feet long, with a No. 5 hook tied on it, and a single large shot firmly fixed about a foot from the hook. Upon the part of the gut above this shot a bullet with a hole in it should freely play, and the ledger-line, after the bullet is dropped on it, may be attached to a long silk or hair-line in the usual way. If the punt is used the ROD should be short and stiff, but if the fishing is from the bank of the river, one at least 16 feet long will

be required, but still stiff and free from play. The LINE should be 30 or 40 yards in length, and of good strength; and a winch will of course be required.

FLOAT-ANGLING is also practised for the barbel, and in roach-fishing it is very common to hook this fish, but as they plunge very desperately when hooked, they often break away with the fine tackle used in roach-fishing. When the barbel is the chief object in float-fishing, the line must be of very strong gut, and a cork-float should be used. (See woodcut of floats at page 281.) The rod may be the general rod already described, or the light one adapted for roach and dace-fishing. A long line and winch are doubly necessary in this kind of fishing.

GROUND-BAITING for barbel is always practised, and without it there is very little chance of good sport in any given locality. If, therefore, the fishing is to be from a punt, the ground-baits should have been diligently used over-night, and repeated at intervals till the end of the fishing, or it will be in vain. The BEST BAITS are—for clear water, red-worms well-scoured, gentles, and greaves; in muddy water, lob-worms or marsh-worms, cheese or paste may be used; but whatever bait is fixed on should completely cover the hook; thus, one, two, or three gentles will be required; two red-worms, or a lump of greaves. If lob-worms are employed, one will generally conceal the hook; but as these fish gradually suck their bait into their small mouths, it is important to conceal the hook not only from the eye, but from their sense of touch.

THE SEASON FOR BARBEL-FISHING is from March to the end of October, and the most likely time is quite late in the evening; but though they do not bite freely till then, they may be taken during the whole of the afternoon; in the early morning, also, they take a bait as freely as in the evening, and especially after rainy weather. The most likely spots where they may be found are the deeps of rapid rivers, where they lie in small shoals; under bridges they are very apt to lie, and round piles, or at the foot of flood-gates clear of the rapids, they often remain quite stationary for hours, and are then sometimes taken by unfair means—such as eel-spears, or landing-hooks, &c.; or by means of a large treble-hook dragged over their backs with some little knack, however unfair it may be.

THE MODE OF FISHING FOR BARBEL with the ledger-line and punt is as follows; the punt should be moored across the space already ground-baited over night; the short rod is then to be held over the stream, and the bait gently dropped into the water, keeping the line moderately "taut," but not so much so as to prevent the fish pulling the bait slightly through the bullet, but still enough to show when he is actually sucking it in. When the point of the rod indicates this action strike smartly, and the hook is sure to get secure hold of his mouth, when, unless he is a very large fish, he is quite safe; but if very large, his struggles with his tail will be likely to break the line, and even sometimes to carry away the top joint of the rod. In this case—that is, if he is a strong fish, the line must be suffered to run out as far as the weeds, &c., will allow; but it must always be managed so that the fish is kept in clear water, as he fights most energetically among piles of weeds. A landing-net or hook should always be at hand in such a case, and an assistant will then save all trouble by bringing him to shore; but if this can be avoided without danger of losing the fish, and the sport is desired to be prolonged, he may be played till exhausted, and then brought out without risk by the landing-net used in the punt. The same mode may be adopted in fishing from the shore, but here, as the angler can run with his fish if the weeds are not very rife, he may play him to great advantage. Some anglers consider the sport afforded by this fish almost equal to that of the trout, and superior to the grayling.

SECT. 8.—TENCH AND CARP-FISHING, ALSO CRUCIAN AND BREAM.

THE TACKLE for these fish should be as follows:—ROD, an ordinary bottom-rod—the general one described at page 282, will suffice; LINE of plaited silk or twisted hair, with a good length of stout gut; FLOAT of cork or swan-quill; HOOK, No. 6 or 7. A PLUMMET will always be required. Sometimes, as in fishing for chub, *sinking* and *drawing* are practised exactly as there described.

GROUND-BAITING over-night is always to be practised for carp or tench if the punt is to be used; and if the angler fishes from the bank, he should cast in a little of this useful accessory every few minutes.

THE BEST BAITS are a couple of red worms or gentles; sometimes one of each will take the fancy of the carp, which is a very fickle and cautious fish, and very difficult to bring to hand. Taylor advocates green peas, which are said by him to be very efficacious; but all sorts of baits succeed at times and fail at others. The

angler, therefore, who is anxious to take carp, may try caddis, bees, grasshoppers, and in fact the whole range of baits described at pages 270 and 271.

CARP ARE IN SEASON from February to September; TENCH do not come in season quite at the same time, as they spawn in May and June, and are then out of condition till August. Both are usually met with only in ponds and ornamental waters, though they are also taken with the net in running but sluggish streams, but are seldom killed with a bait anywhere but in strictly-preserved waters, as they are soon alarmed, and are then rendered extremely cunning and wary. Both take a bait better after rain than at any other time. The deepest and stillest parts of the river or pond are those where these fish are the most likely to be found, but in summer they are very fond of basking near the surface among the weeds, and it is then extremely difficult to persuade them to take any bait.

IN FISHING FOR EITHER TENCH OR CARP, great care must be taken by the angler to keep well out of sight, as they are so cautious as to refuse all baits when alarmed by the sight of man. The line must also be very carefully and lightly dropped into the water, and not even the shadow of the rod allowed to fall over their haunts. Tench lie in the mud, and can seldom be tempted out of it; but by plumbing the water carefully, and patiently suspending the bait a very few inches above the mud, they may sometimes be enticed out of their beds. For the carp two or three rods may be used, as the bait must be left for a long time quietly in one spot, where the carp will often watch it most jealously for some time, and then when perfectly satisfied of its freedom from guile he will at last take it. Even with half a dozen rods there is no danger of the angler being overdone with more than one fish at a time. The bait should be suspended about a foot from the bottom.

THE CRUCIAN may be angled for exactly in the same way as carp, but it is so rare a fish as seldom to be presented to the angler, except as an accidental take.

BREAM, also, will be found to require the same kind of tackle and management as carp and tench, but as they bite freely enough they do not require either so much patience or caution as these fish. They are chiefly found in deep but rapid rivers running through rich alluvial soils.

SECT. 9.—PERCH-FISHING, INCLUDING THE RUFF OR POPE.

FOR SMALL PERCH, such as are most commonly met with, a "general rod" will suffice; and the common line with good-sized gut, and a No. 4 or 5 hook baited with lob-worms, or almost any other worm, or with the caddis, caterpillar, or wasp-grub. These baits must be varied till some one is successful; or if it is known beforehand what bait suits the particular locality, that one should be selected. The paternoster line, armed with various baits, may be used if the angler is not in possession of the above kind of information; and as the perch swims and feeds at all depths, it is the best kind of tackle in deep water. In rivers where many weeds exist, or where there are piles, or roots, or trees, this tackle is not so manageable, and the sinking and drawing plan must be adopted.

FOR LARGE PERCH, the minnow, either dead or alive, is the best bait; and both may be used at discretion. For open and clear water, or in running streams, the dead minnow, with the spinning-tackle as described at page 270, is the most killing bait; or the gudgeon may be used according to the plan described in the same page, with the parr-tail; and which, with the perch, I have known a most efficient lure. The gorge-hook (page 271) is also successful, and is particularly serviceable in awkward and weedy rivers, where the spinning-tackle can scarcely be used.

THE SEASON FOR PERCH is from February till October, during which long period they bite with varying degrees of readiness, and at almost all hours of the day. It is generally supposed that windy weather is the most likely to tempt these fish, or at all events that they are as free to take the bait then as at other times. Such, however, is not the result of my own experience, as I have always found a marked difference in perch as well as other fish in connection with strong winds, and also with the time of day. Young anglers, therefore, should take this *dictum* with some caution.

LITTLE DIFFERENCE IN THE MODE OF USING THE BAIT need be made from those recommended for roach and dace, if the perch sought for are small; but in localities where large perch may be expected, and where the live or dead fish bait is used, some considerable variation must be practised. Hitherto I have not had occasion to describe the mode of using THE LIVE AND DEAD FISH BAITS; but as we are now considering their adoption in taking perch, it will be proper here to enter upon the subject. I have already (page 271) alluded to the mode of applying the live minnow to

the hook, or rather of inserting the latter in the back of the fish close to its fin. When this has been done, and the gut is properly shotted with about two or three No. 1 shot, quietly enter the fish at some distance from the shore, and let it take its own course swimming where it chooses. A float is only a hindrance to the live bait; and as it is dragged about on the surface of the water, it serves to attract the attention of the perch, and is very apt to scare them away. As soon as the perch is seen or felt to take the bait, strike pretty firmly, though not with much force. Live frogs may be used in the same way, as well as newts.

SPINNING for perch is practised as follows:—The bait being applied according to either of the methods described at page 270, the angler should use the general rod with the short top; a reel and reel-line of plaited silk, or twisted hair and silk will be necessary, and a good length of strong gut (or, when pike are likely to be met with, of gimp), armed with one or two box-swivels. With this apparatus the angler proceeds as follows:—He first casts or throws the minnow down the stream, if there is any, or, if in still water, as far out as he can; then, pulling the bait gently yet firmly to him for a yard or so, it revolves rapidly on its axis, and must be allowed to sink for a few inches at the end of that distance by his ceasing to draw in. The angler then repeats the operation till he brings the bait out of the water, when a cast in a fresh direction must be made, but exactly as before in principle. It is obvious that for this purpose a long rod is required to command a greater extent of water, and a more numerous series of spins, and that running water materially assists the spinning; still, in dead water a well mounted minnow or gudgeon may be spun with great effect, and will kill there in preference to any other bait, except perhaps a live one of the same species.

THE GORGE-HOOK is used with the full-sized trolling-rod and a long line, a yard or two of which is pulled out in a loop clear of the reel, and held loose in the left hand. Cast as gently as possible the minnow from you down-stream, or out into the water if it is still. In thus casting, the loose portion of line is expended, and the bait is thrown considerably further than it otherwise would be. Then begin to wind up a little at a time, stop, and wind again; thus imitating the actions of the living small fish represented by the dead bait. When the length of line is reduced to a manageable amount, the action may be varied a little, and the fish may be eased downwards or upwards, or among piles or other likely places; but in all cases proceeding by slight jerks, and at the same time not too rapidly. When the bait is thus brought to hand again, repeat as before, and try all likely spots—first casting and drawing over and through the nearest places, and then extending the reach to the most distant ones. The expert angler will always study the actions of living fish, and endeavour to imitate them, which example is far better than any precept that can be given in print.

SECT. 10.—PIKE-FISHING.

As these fish are strong and often of good size, and are furnished with sharp teeth, the tackle must be in proportion. The rod is necessarily longer and stronger than that known as the "general rod," and must be of the kind known as a "trolling rod," which may be described as follows:—It should be here mentioned that pike are taken with the minnow or gudgeon in three different ways—first, with live bait; secondly, with dead bait, in a way called "snap-fishing;" and thirdly, with the gorge-hook, on principles similar to those already described. The first and last of these modes require a long and tolerably stiff rod, while snap-fishing must be practised with the top joints of the rod reduced in length and of greater stiffness. This will serve to make the following account more intelligible. The angler who is very *exigeant* in his desires for the most perfect implements of his craft, will perhaps require two separate rods of varying sizes for each purpose, so as to suit broad and narrow rivers, as well as large and small fish; but the more easily satisfied fisherman will make one rod of the following dimensions serve every purpose:—A bamboo rod is the lightest, and is yet strong and stiff enough for any practised fisherman; it will not, however, bear very rough usage, and for very large pike the butt and second joint should be of some light yet tough wood, such as holly, which may be bored for the sake of diminishing its weight, and also to accommodate within its cavity, as in a place of security, the small top joints. Of these it should have three—one short and stiff, and two others similar to one another, longer and more elastic than the first. The short one is made entirely of whalebone, and is not more than twelve or eighteen inches long; the longer tops are made two-thirds of hickory or lancewood, and the remainder of whalebone. These rods are generally made in five joints of nearly equal length; the first,

second, and last as above described, and the intermediate two joints of bamboo. They are united by the ordinary brass ferules in the usual way, but sometimes other methods are practised; but there is so little occasion for any alteration that it is unnecessary to take up the reader's time by any further description of them. Almost all trolling-rods used in the south are furnished with rings which are made to stand up from the rod, in order to allow the line to traverse their openings with greater facility. These are usually made of broad brass ferules encircling the rod, and having lesser rings of wire riveted into them; but a much lighter and cheaper plan answers perfectly well, and may be described as follows:—Take a piece of wire of sufficient strength, and bend it into a ring of the usual size, leaving a short tail on each side; turn these tails to a right angle each way, and flatten the ends so that they will lie along the side of the rod, when they may be whipped in the usual way. They thus form stand-up rings, easily removable by cutting the whipping silk, and very capable of being restored, if by any accident they are injured. One of these to the head of each joint, and a second to the middle of the last are about the proper number. Some northern anglers, including that high authority, Mr. Stoddart, approve of the same kind of ring as is used in ordinary rods, and which is only attached by a piece of quill, or other suitable material; but I confess that though I have the highest opinion of Mr. Stoddart's judgment in general, yet in this instance I cannot agree with him, as there can be no doubt in my mind that the fixed and upright ring allows the line to run much more freely than the ordinary one such as he recommends. A large reel is wanted, capable of holding from thirty-five to seventy yards of line, according to the nature of the fish and extent of water intended to be fished. This reel should have a simple large barrel without multipliers. FLOATS may or may not be used, but if used they should be of cork. The REEL-LINE must be strong, and the plaited silk is that form now usually adopted, as it is found to be more free from "kinking" than any other. An essential accessory to pike-fishing is the swivel, which may be either the box-swivel or the hook-swivel; the latter differing from the former only in having a small hook at one end. These are attached to lengths of *gut*, or more usually *gimp*, forming with their help what are called double or single swivel-traces.

THE SINGLE SWIVEL-TRACE consists of about twelve inches of gut or gimp, with a hook-swivel at one end and a loop of its own substance at the other, which attaches it to the reel-line by the usual draw bow-knot. THE DOUBLE-SWIVEL-TRACE has, in addition, an extra length of gut or gimp, ending also in a loop, and between the two a box-swivel by which the tendency to twist in spinning is still further diminished. In both cases the hook-swivel receives the loop of the hook-length of gut or gimp *after it is baited*; and in both instances, also, swan-shot or lead, in some form, is required to sink the bait; and it is attached in greater or less weight, according to circumstances, to the gimp close to the hook-swivel.

THE HOOKS will be more particularly described under each mode of fishing; and for their application to the bait a needle, called a BAITING-NEEDLE, is required.

A LANDING-NET, OR HOOK, will be required, as pike are sometimes of such a size as to demand their assistance. The former is merely a circle of iron, either plain or jointed, with a handle which may be made to take on and off for the sake of convenience; and armed with a deep net, which receives the fish. The hook is intended to supply the place of the net, but is a clumsy substitute. (See page 280, and accompanying woodcut.)

THE BAITS used for pike are exceedingly various, reaching from the common lob-worm and ordinary hook, which will often take jack—*alias* small pike—through all the degrees of live minnows and other fish, as well as frogs and newts, dead minnows and gudgeons, artificial minnows and gudeons, and even the artificial fly. These various baits are used also in almost as many different ways, of which three have been already described in the list of baits, under the heads of "The live Minnow-bait," "The Spinning-minnow," and "The Gorge-hook-bait." But besides these, the snap-hook bait is employed at those times when pike are shy of gorging, and inclined to eject the bait, or *blow* it out, as the angler denominates this act. The snap-hook is either the plain or the spring snap-hook, and they are both used for live as well as dead fish baits; though the spring snap-hook is very apt to destroy the life of the fish very rapidly, and is a very cruel mode of baiting. The plain snap is made in several ways, as follows: first plan—two hooks (No. 4) should be tied back to back, then to these tie another smaller hook (No. 8) together with a piece of wire ending in an eye (see snap-hooks, *fig.* 1).

To the eye is whipped a piece of gimp, and the other end of this has a loop by which it is attached to the hook-swivel in the usual way. In fixing on the bait proceed as follows: take a good-sized gudgeon or small roach, or a perch with the back fin removed, arm the gimp with a baiting-needle and insert it behind the back fin, bringing it out again at the mouth and drawing the gimp after it, so that the short hook stands with the point rising out of the back, and the others are one on each side the belly; this bait ought to spin well. Second plan—exactly similar to the mode recommended by Mr. Stoddart of applying three hooks to the parr-tail, only that in England it is used with a whole fish, and the hooks point towards the head. Mr. Stoddart's plan is no doubt the best, and with a tail of the roach, dace, or perch, is admirably adapted to pike-fishing. Third plan—in this mode four hooks are used, which are separately whipped on to two pieces of gimp, looped at the other ends; one about three-quarters of an inch in length, the other about three times as long. After arming them with the baiting-needle, they are each passed through the fish, the short one at the shoulder, the other near the tail, and both the loops being brought out at the mouth are attached to a hook-swivel, after which the mouth is sewn up and the bait is finished and ready for use; though sometimes, in addition, a leaden weight is sewn up in the mouth to sink the bait. THE SPRING SNAP-BAIT is a more complicated machine, and is composed of a case which connects and keeps in place the shanks of the hooks, which, when in the case, resemble the common snap-hook (*fig.* 1), but which, when drawn out, expand by their own elasticity, and assume the form indicated in *fig.* 2. This is sometimes applied to a live fish, but usually to a dead roach or gudgeon, or to a small bream. The bait should be about six ounces in weight, for a smaller one will not effectually conceal the hooks. In baiting the hooks insert the small hook in the back of the fish, near the back fin, taking a good hold of the flesh and allowing the point to project a little way out of the skin, and the other two hooks to lie one on each side of the belly. The mode in which this acts is as follows: as soon as the pike seizes the fish in its mouth he pulls slightly on the line, which causes the angler to strike, and this action draws the case from the shanks of the hooks and allows them to expand themselves, and thus prevent the pike from blowing the bait out of his mouth.

LEDGER-BAITS, OR BANK-RUNNERS, are often adopted in pike-fishing, and are merely used as a mode of dispensing with the rod. The bait is a live minnow or frog, attached to a long line wound on a reel at the top of a strong pointed staff which is driven into the bank, and the line suspended over the water by a forked stick; a cork float is used, and the fish or frog-bait is suffered to swim about; the angler visiting his ledger-baits every half-hour or so. This, like the following, is a poaching kind of fishing, more adapted for filling the fish-kettle than for showing sport. Its worthy companion is The TRIMMER, which is a floating reel, allowed full liberty on the lake which is to be fished, and of which several are thus set afloat at one time. This also is baited with a live fish, and its action is similar to the bank-runner, except that as the trimmer follows the hooked fish it does not require so long a line. The hook is sometimes a single one inserted in the back, and at others a double snap-hook passed obliquely through the body. Two sorts of trimmer are described by Mr. Daniel—the first is made of flat cork, or light wood, painted, seven or eight inches in diameter, circular in shape, with a groove in the edge deep enough to receive a fine whipcord or silk line twelve yards long (the proper rule is five yards longer than the depth of the water). A small stick, two inches long, stands up from the water, with a slit in the end. In setting this the bait is attached with a double hook, which is passed obliquely beneath the skin only, and the line, at about three feet from the bait, is gently dropped into the slit, so that when the pike is hooked he tilts up the cork and disengages the line from the slit, which only serves to keep the bait at a proper depth, and near enough to the floating cork. The second kind instead of being circular is made in the form of a wedge; and the line in place of being coiled round the edge, is wound in the form of a cross over the float, like the cotton over an old-fashioned card. It answers better for weedy places, perhaps, but on the whole is scarcely to be preferred to the common plan.

PIKE ARE IN SEASON from May to February, but the best time for the sport of taking them with the hook is the period immediately before the weeds shoot, and again in October when they have rotted. The latter is the true pike season, as they are then firm and fleshy, and also voracious, so as to afford good sport. This fish is usually taken of good size in artificial

waters, or in deep alluvial rivers. In these situations there are almost always great quantities of weeds, and when they exist in full vigour it is almost impossible to land large pike, even if they are hooked. The bait also can scarcely, at such times and situations, be properly manœuvred, and hence, it is by common consent considered that pike, though perfectly edible, should not be angled for till after Michaelmas, from which time till February the water is in good order for their capture.

THE MODE OF FISHING for pike varies with the particular hook and bait employed. If the LIVE BAIT is used with the ordinary hook, it can only be successful at times when the fish are voracious and ready for any bait, which, indeed, they often are. If this happens to be the case, the bait must be gently passed into the water, and will be more easily managed with a float, as with the length of line required in pike-fishing it is impossible otherwise to maintain a proper depth for the bait, which should as far as possible be made to swim at mid-water. This is effected by the float keeping the bait up, and the shotted line preventing its rising to the surface. If the bait seeks the weeds or other shelter it must be stopped, and if dull and sluggish it must be stimulated by a gentle shaking of the rod. When removing the bait for a fresh throw, great care should be taken to do this gently, as a very little extra force will make a great difference in the duration of the life of the fish; and not only so, but the gentle mode will give the bait less pain than any other. The use of live baits is always more or less cruel, and surely every unnecessary degree of pain should be avoided. When the bait is seized by the pike, which may be known by the float disappearing under the water, be very careful to allow him to carry it off without restraint, and for this purpose draw off the line with the hand and let it run loosely through the rings. If the slightest impediment occurs he will be sure to blow it out, and your hopes are blasted. After a short time, during which he has been quietly gorging the bait, he will again move off, and then is the time to strike, which you may do sharply, but not roughly. If this is cleverly done the fish is firmly attached to the line, which, if of good materials and the hooks equally efficient, will land your fish for you with the aid of a little skilful management. Pike may be played with great advantage, and a considerable increase to the interest of the sport. The principle consists in yielding to him for a time, by letting out the line as far as is prudent and the absence of weeds, &c., will allow; and when otherwise, making the elastic power of the rod withstand his progress by advancing the butt. In this way he will at last be tired out, and may then be landed with safety by means of the landing-net.

THE SNAP-BAIT is employed only when the fish are wary and inclined to eject the ordinary kind, and it is used as follows:—I have already (page 287) described the mode of arming the hook with the bait, and also the peculiarly short and stiff top to the rod which is required. This last is necessary in order to give increased quickness to the stroke. The chief difference in this mode from that last described consists in the striking, which should be done the moment the pike seizes the bait, when, if successful, he may be landed or played according to circumstances, as before described, or if not too large, pulled out at once over the shoulder. TROLLING, however, by means of the gorge-hook, is the most common mode of taking pike, and is also the most sportsmanlike, inasmuch as it is deprived of the stain of cruelty which attends upon live-bait fishing. It requires, as I have already observed, the full-sized trolling-rod, with long and strong line, a good-sized reel free from multipliers, and all the apparatus peculiar to the gorge-hook—viz., cork-float, swivel traces, gorge-hooks, and bait. When these are all artistically adjusted, the bait must be manœuvred in the manner already described at page 286 for perch, and it will generally be successful where good fish abound, and the fishing for them is attempted at the proper season. The butt of the rod should be rested against the thigh or groin, and it should be grasped by the hand about eighteen inches higher up, which will give the angler great power over his rod, and also leave the left hand at liberty to manage the line, a loop or two of which should be held in that hand, ready to "pay out," as the sailors say, when the bait is cast. When a pike has seized the bait, wait patiently, as already recommended, and the average time necessary for this exercise of patience will be about six minutes; then strike and play, or not, as before mentioned.

IN REMOVING THE BAIT FROM THE MOUTH of the pike after landing him, be careful of his jaws and teeth, which sometimes inflict severe wounds. The first thing to be done is to knock him on the head, which will enable you to recover your hooks and gimp at your leisure, whereas by attempting, by means of the disgorger, to remove them

while he is alive, great risk is incurred not only to them, but to your own fingers. After he is quite dead, open the mouth, and if the bait is still there, after propping the mouth open, liberate the hooks with the knife, and remove the bait; but if this has been swallowed, make an incision into the stomach, and remove them through it. Very often the process is a delicate and tedious one, and many fish will require to be slit open from the mouth to the stomach before the hooks, if well fixed, can be so cleared as to allow the bait to be removed without injury to them or to the gimp.

Sec. 11.—Eel-Fishing.

The Apparatus which is used for taking eels is exceedingly various, inasmuch as almost every kind of hook is occasionally adopted. Some of the different modes and tackle have been already described, such as the ledger-line (under Barbel-fishing), the ordinary float-angling, &c. These may be used with eel-hooks and strong tackle; and the eel should be landed as quickly as possible after he is hooked, for the reason that he is otherwise sure to coil himself round some weed or pile, or other fixed object, and so set at defiance the efforts of the angler. Usually, however, these fish are taken at night, and the ledger-line answers very well for that purpose, the hook being mounted on strong whipcord or on gimp. The regular Night Line consists of a long and tolerably stout cord, to each end of which a brick or stone is attached weighing three or four pounds. At intervals of two or three feet a piece of whipcord or gimp eighteen inches long should be firmly tied, and armed with an ordinary eel-hook. When all are baited, drop one brick or stone gently into the water, then with a long pole or boat drop the other at the full length of the line, and leave the whole apparatus sunk till the next morning, when at early dawn they may be taken up again with a boat-hook, and the eels, if caught, removed. They should be set the last thing at night, that the bait may be fresh, and taken up at very early dawn.

Bobbing for Eels is practised with a common darning-needle and worsted, several lengths of which are strung with worms, and then, after being gathered into loops, they are united by a strong line to a piece of lead weighing nearly a pound, and pierced with a hole for the purpose of attachment to the line. The eels are taken by their teeth catching in the worsted.

Trimmers are set for eels exactly as for pike, except that the hooks should be eel-hooks.

Sniggling is another mode of taking eels, which is carried on during the day, and the apparatus consists in a strong needle about two inches long, a stout whipcord-line, which is whipped to the needle from the eye to the middle, from which part it is suspended, and a short rod with a notch at the end, and capable of being set at any angle or curve, for which purpose it is either made of flexible wire or with hinged joints. The needle is baited with the worm, which is drawn over both needle and line, and when the angler strikes he fixes the needle across the eel's throat.

The Eel-Spear is the most common of all the implements used in taking eels; but as it requires very little art, it is scarcely fitted for the sportsman's use, and is solely intended to be employed by those who take fish for profit. But the great bulk of the eels caught in this country are taken in traps set in the weirs of the rivers, when they run in the floods which are so constantly occurring.

The Best Baits for Eels are either live fish or lob-worms. Dead baits are not so readily taken, as there is no means during the night of simulating the motions of the living fish, as can be done with perch, trout, and pike, which take their food by day. Lob-worms, therefore, as being the most readily procured, and remaining alive on the hook for a considerable time, are the most common bait. The lampern is used in those rivers where it is met with, and is a very deadly bait. It requires care in its application not to injure the nine-eyes or gills, for if they are destroyed the fish soon dies, and lies motionless and unattractive. The hook, therefore, should be entered below them, leaving the head and these openings hanging free. It is too large a bait for any but full-sized eels, as the small ones pull off the pendant portions without hooking themselves.

Eels may be taken during the spring, summer, and autumn. They haunt the recesses of the banks, or lie in the mud or weeds during the day, leaving these places only at night for food. Ponds, canals, and alluvial rivers are the chief localities for these fish, but few rivers are totally free from them. In some, however, they absolutely swarm, and even in small brooks they may be taken in quantities amounting to many hundredweight during their runs or migrations.

The Modes of Taking these Fish vary with the apparatus employed. During the

day, sniggling, bobbing, or ledger-line-fishing will be the most successful. The first is practised as follows:—Take the needle, armed and suspended as already described, and draw on it a large lob-worm in the following manner. Enter the eye of the needle at the head of the worm, and run it down till the whole needle is covered except the point, which is inserted in the notch or slit at the end of the rod, leaving the worm free. In this way the head of the worm is presented to the eel, and is conducted into his hole or haunt by the bent end of the rod. As this end can be set at any angle, it may be guided by round stumps or stones, and when it is gently insinuated as far as it will go, it is quietly left there. The line attached to the hook is held in the left hand, and as soon as the fish seizes the bait and has drawn it out of the cleft stick, slacken the line, and gently withdraw the stick; give a little time for the eel to swallow the bait, and then strike, when the needle will cross his throat, and hold him securely. Do not attempt at once to draw him out, but let him tire himself first, and when he is exhausted, pull him out. BOBBING is practised with the worms strung on worsted, as already described, and gathered up in links, which are to be attached to a line of whipcord about two yards long having a knot on it eight or ten inches from the worms, and the lead slipped down to that point. When the eels bite, their teeth stick in the worsted, and they may be gently pulled out before they disentangle themselves. This mode I have never seen practised, and I have great doubts of its efficiency with any but small eels. LEDGER-LINE-FISHING for eels is similar to that for barbel, described at page 284. For the purpose of taking eels by night, the trimmers may be set as for pike, or the night-line, as described at page 290.

SECT. 12.—BOTTOM-FISHING FOR COMMON-TROUT, LAKE-TROUT, AND SEA-TROUT.

THE BOTTOM-ROD for trouting should be at least seventeen feet long, and should be in fact similar to that described as the trolling rod for pike (see page 286). An ordinary TROUTING REEL and REEL LINE are sufficient for the purpose; and the casting line should have six lengths of good single-gut slightly stained with brown or brownish-green by means of common black or green tea. No silk should be used at the knots, but the simple angler's knot should be employed. THE HOOK for trout best adapted for the worm is No. 3 or 4, and for the minnow according to the kind of fishing adopted. When the hook is intended for the worm it ought to be whipped on to the gut with crimson silk, as the dark silk usually employed alters the colour of the transparent worm, and deters the trout from taking the bait. SHOT or lead, in some form, is required in order to sink the bait, and its weight should depend upon the strength of the current. Swan-shot answers best for this purpose, and, more or less, must be applied at the discretion of the angler when by the waterside he ascertains the rate of the current. A FLOAT will sometimes, though not always, be needful, and may be either of cork or swan-quill, the latter being to be preferred. THE HOOKS FOR SPINNING-TACKLE are similar to those described at page 270; and the GORGE-HOOK will be found treated of at page 271.

THE BAITS FOR TROUT used in bottom-fishing are chiefly worms and minnows, the latter either natural or artificial. Caddies, however, and caterpillars, with gentles and salmon-roe, are in some localities much prized. The worms which are the best for trout-fishing are the marsh-worm, the button-worm, and the brandling; the last being chiefly adapted to the smaller sizes of fish. They should be well scoured, and applied as follows;—Six or eight dozen worms will in all probability be required in a good day's fishing, and should be carried in some damp moss in an appropriate bait-box, or canvas-bag. In putting the worms on the hook, take the latter in the right hand, between the finger and thumb, then taking a worm in the left finger and thumb, insert the point of the hook near the head of the worm and run it along its body until the whole of the hook is concealed, and also a very short portion of the gut; in doing this great care should be taken not to expose any part of the hook, and especially the barb, which should not on any account penetrate the side of the worm. If the worm is too small to conceal this quantity of the hook and line, and also to leave a portion, at least an inch long, hanging free from the end, two may be applied; and if on the other hand it is too long, the barbed end may be brought through and re-entered an inch or so lower down, so as to pucker up a coil of the worm's length, which adds to its allurement, and at the same time prevents too long a free portion from hanging from the end. The worm is thus injured as little as possible, and will live a considerable time if not roughly used in the water. It should be examined every now and then to see that it is not broken. Grubs, caterpillars, and gentles are applied two or three

at a time on the hooks—first one lengthwise, then one obliquely so as to leave each end free, and finally one lengthwise to conceal the barb. The mode of applying the dead minnow and parr-tail has been described under the head of "Baits," as well as the other ordinary methods of baiting the gorge-hook and the live minnow-tackle.

THE ARTIFICIAL MINNOW, in all its varieties, may be tried, and in some rivers and states of water will do great execution. In none, however, will it take equally well with a good and well-baited real minnow, and if these can be obtained, it is useless to attempt to take fish with an inferior article. The DEVIL-BAIT is also sometimes successful; indeed, trout are so capricious, that it is difficult at all times to say beforehand what they will take, and what refuse. I have already mentioned and described Mr. Blacker's modification of this bait.

THE COMMON TROUT is found in almost all the clear, gravelly, and quick-running streams throughout the three kingdoms, and sometimes, though not in the same perfection, in streams of an opposite character. They spawn in the autumn, the exact time varying in different localities; and they come into season in the spring, when also their time of perfection will be early or late, in accordance with the nature of their *habitat*. A low temperature seems rather to accelerate than retard their condition; and many of the Scotch streams are much earlier than those of the southern and western parts of the island. After August trout are not fit for the sport, being full of roe, or else spent from the operation of spawning. For bottom-fishing, the deeper and stiller parts of the stream answer better than the very rough freshes, though even for this kind of fishing perfectly still water is not so well calculated as that rate of stream which will move the bait without destroying its form or texture. The great lake-trout is met with in a few of the large lakes in Scotland, while the sea-trout are common in all the Scotch salmon-rivers. Under this term, so well known to anglers, are comprehended the bull-trout, the salmon-trout, and the finnock or herling.

THE VARIOUS MODES OF TAKING TROUT will be now entered upon. First, fishing with the worm is practised by obtaining all the apparatus and bait described at page 291; the angler then, with his wading-boots on, if he uses them, quietly wades into a part of the river which will command an extensive sweep of likely water; or, if preferring *terra firma*, he keeps as much as possible out of sight of the fish upon a part of the bank suitable for his purpose, and below the water to be fished. It must be known, that the worm should in all cases be cast up-stream, and suffered to float down again, for reasons which will be clear enough when explained as follows:—first, the trout always lie head up-stream, and therefore do not see the angler so well below them as above; secondly, the bait floats gently down without injury, which must be done to it if dragged against stream; thirdly, in hooking the fish, the barb is much more likely to lay hold in this way than if he is struck in the line of the axis of his body; and fourthly, the water is not disturbed by the wader till it has been already fished. The angler swings or casts his worm as far up-stream as he can, using as long a line as he can easily manage, and no more, and suffering it to float down with the stream till within a short distance of the place where he is standing, when it should be lifted and recast. When a fish is felt to bite or lay hold of the worm, wait a few seconds till he has done nibbling, and the moment he is running off with it strike smartly but tenderly with the wrist, not with the whole power of the arm, and proceed to land your fish with as little delay as possible.

GRUBS, CATERPILLARS, GENTLES, &c., are all used in the same way, and will serve the angler well in many localities, but as a general bait for trout they are not equal to the worm. Fishing with the salmon-roe will be found more particularly described at the end of this section.

IN USING THE LIVE MINNOW, the hook (of size No. 3) should be entered at the back-fin, and the barb should stand up a little above the surface; the line then being shotted, and a swan-quill float applied at about three feet from the hook, the bait is suffered to swim about in any direction but that of weeds, or other dangerous spots in the bed of the river. As, however, trout are chiefly found in strong running streams, and as in such situations some force must be exerted upon the minnow in keeping it from running with the stream, its life is soon destroyed, and therefore the live minnow is not so well adapted for trout fishing as for perch or pike; but in those rivers whose current is comparatively slow, and which are nevertheless the haunts of large trout—as, for instance, the Thames, the Severn, the Warwickshire Avon, &c., the minnow may be used alive with advantage, keeping it out of the rough water which is always at the foot of weirs and waterfalls, where dead or artificial minnows are much more useful.

THE DEAD MINNOW USED WITH SPINNING TACKLE, according to one or other of the modes recommended at page 271, is most suited for taking large trout; and the precise style of fishing with these baits is as follows; but the angler should understand that the principle on which he conducts his operations is not that of a slavish imitation of the motions of the natural live minnow, such as will answer to a certain extent with the pike and perch, which are less wary than the trout, but rather to produce such a quick and constant spin of the bait as shall conceal the hooks from the fish to be caught. The principal point, therefore, is to fix the bait on the hooks so as to spin well, and to last in this state a long time; and thus to avoid as much as possible the renewing of the bait, by which time is lost, and generally just at the most valuable period of the day. No bait comes so near perfection in these several points as the parr-tail, and it will, I am persuaded, as far as a limited trial will allow of an opinion, be found to be better suited than any other to spinning *for* trout, in all streams where the current is strong. I have already remarked that gudgeon, or other fish of the same size, in the absence of the parr, will be large enough for this purpose. When the bait is properly applied, according to the mode recommended at page 272, the line should be cast as gently as possible by means of the trolling-rod, taking care not to injure the texture of the fish-bait by jerking it violently, and therefore avoiding too long a line and too forcible a throw. Underhand casting does less damage than when the bait is thrown overhand, and by its adoption the splash in its fall into the water is also much less considerable. In working the bait everything depends upon the strength of the stream; but the rule always is to make the minnow spin as fast as possible without injury to its texture. Thus, when it is drawn against the stream, it may be steadily brought towards the hand, and made to revolve, chiefly by the action of the current. If, however, it is drawn down stream, a series of jerks must be given, or it will not spin sufficiently fast; and yet if the pull is maintained so as to keep up the spinning at the same rate throughout, the casting-line itself makes a very prominent ripple, and by the overdoing of the attempt serves to scare away the fish. The line should always be well shotted, as the minnow will otherwise rise too near the surface, and no float will be required, inasmuch as the bait is always at the end of a "taut" line. Mr. Stoddart also recommends the adoption of a plain hook, baited with a minnow as when using a worm, running it in at the tail and bringing it out at the mouth; after which he hitches the gut over the tail to suit the bait in its proper position. With this he fishes as with a worm in low and clear states of the water; but as I have never seen this bait used I cannot speak as to its efficiency. It is exactly the reverse of Izaak Walton's mode of entering the hook, and according to Mr. Stoddart's practice and theory, is much to be preferred to it. Colonel Hawker's mode of baiting the hook with the addition of side-hooks, is used in the same way as ordinary spinning tackle, and the minnow baited as he recommends will be found tolerably serviceable. It is merely the addition of the side-hooks to Izaak Walton's method of applying the hook, which has the objection of offering the wrong end to the trout, having the barb at the tail instead of the head. It is therefore no wonder that trout so often are missed when rushing at it, since they almost invariably endeavour to seize the head. This is the case with most predacious animals, which are instinctively made aware that this part is the most vital organ, and they almost always begin by eating the brain where such an organ exists. When fishing with the minnow well leaded and in deep water, the angler seldom sees the trout rush at his bait, but is warned by the sense of touch, rather than by his eyes that the trout is at it. At this moment the angler slackens his line gently for a couple of seconds, and then strikes with his wrist, using only a slight jerk. The trout is now either hooked or alarmed, but generally the former is the case, unless he is a very shy, wary old fox; in which case he is not likely to be again tempted on that day. If, however, the trout is seen approaching the minnow, the angler ought to endeavour, as far as his nerves will allow him, to continue the precise kind of motion which attracted the fish, until he not only *sees* him at the bait, but *feels* his pull, when he should proceed exactly as if all was out of sight. This, however, is a difficult task, and few young fishermen have sufficient command over themselves to avoid the mistake to which their attention is here directed. Every one who has hooked fish of any size with fine tackle must be aware how difficult it is, when commencing trout-fishing, to carry out in practice the theory which he has been endeavouring to realize for some time past; and each, in his turn, must have been made painfully conscious of the danger not only of striking too soon and too

hard, but of attempting to land a large fish with fine gut before he is tired. My own early recollections satisfy me on this point; and I remember on one occasion losing a trout of at least five pounds weight, through excess of anxiety to land him rapidly and triumphantly; although, theoretically, I was fully aware of the folly of my proceedings. All of us, I have no doubt, could tell the same tale; and so it must ever be. Nothing but practice can give that steadiness of nerve and presence of mind which will enable the fisherman, or any other sportsman, to do the right thing at the right time. In bringing the minnow home, if the angler is on the bank, he should be very careful to lift it from the water slowly and quietly, as it is very often at that moment that the trout seizes it. Whether he fancies that the bait is a live minnow leaping out of the water, or whether the value of the thing is increased by the prospect in losing it, cannot of course be surely known, but it is certain that at this moment many large trout which have cautiously followed the bait all through the cast, are at last tempted to rush at it, and may then be taken if the above precaution is adopted; whilst, on the other hand, they are assuredly scared if the bait is carelessly drawn out of the water.

TROLLING FOR THE GREAT LAKE-TROUT is often practised in the Scotch lakes. For this purpose two strong and long trolling rods are required, with lines of at least eighty yards of strong twisted silk, or good hand-made hair-line. This kind of fishing must be carried on from a boat suited to the state of the lake, which, if liable to strong currents or winds, will require it to be of full size and seaworthy. This is rowed out into the lake by a couple of men, who manage it and impel it in the direction and at the rate of speed indicated by the angler, or by some experienced hand, if he is young or a stranger to the locality. Very strong swivel-traces will be required, with the double swivels, and either strong gimp or treble-gut must be used for the hook-length; but if the latter, it also must be guarded with brass wire, as these fish are very apt to bite through anything which is capable of being easily cut or divided. The parr-tail form of hooks may be used with one of the rods, and baited with a small trout or smoult; on the other may be used by way of variety, any of the ordinary forms of hooks, or the following, which, as being equally simple and efficacious, may be strongly relied on:—Two hooks of No. 3 size are tied together at a considerable angle with a third of No. 5 size, whose shank comes quite close to the point of junction of the two hooks. This form of hook is used with a large smoult or small trout, and will generally succeed, though not I think so good as Mr. Stoddart's parr-tail. The traces should be heavily leaded with rolled lead or swan-shot. In using these baits the angler is rowed out into deep water, and then drops one of his baits from the stern of the boat whilst slowly progressing under the oars, and allows the line to run out about thirty yards, when it is stopped by some kind of hitch, such as a slip-knot or any other device, and the rod is fixed over the side of the stern at an angle of thirty or forty degrees. The other rod is then set in the same way, and the boat steadily kept going at about two miles an hour. If the boat nears the shore, or rows along it in a circular direction, the line on the shore-side ought to be shorter than the other by at least ten yards. The line ought to be free, or so nearly so as to barely withstand the force of the boat moving through the water; if therefore a slip-knot is used, see that it is a very free one. A stone is sometimes employed, placed in the bottom of the boat, or a piece of cobbler's-wax on the butt-end of the rod to which the line is attached by the thumb, and from which it is easily torn by the pull of the fish. When a large trout is hooked, the boat should be rowed to the shore, and the fish landed with the landing-net or gaff. ARTIFICIAL MINNOWS, or other fish, are used for the common trout or lake-trout, exactly as in fishing with their originals for which they are substituted, except that the striking must be quicker, so as to prevent the trout from detecting his error, and thus leaving the bait before he is hooked. There is one other bait to which I have alluded, the description of the mode of using which must now be given; it is a very deadly bait, and will so generally take trout, that it is by many considered to be closely allied to poaching—this is the SALMON-ROE, the mode of using which is as follows:—The directions for curing the roe and making the paste have been already given, but the ova, or beads, must be removed from the jar before use, and placed in flannel in a warm place, and under slight pressure, so as to toughen the skin. In fishing with this bait, the refuse particles are used as ground-bait, and then the hook is strung with the beads or baited with the paste, and the trout taken as fast as this attractive food will tempt them to their fate. Mr. Stoddart recommends two hooks to be tied back to back, and then brought half round so that their bends stand

at right angles to one another, in which state they hold the paste very well. He is of opinion that this bait is too murderous in ordinary rivers, and only suited to such localities as are frequented by trout in search of salmon-roe, when it may be desirable, for the sake of the salmon, either to get rid of the trout or to scare them away, and disgust them with this particular food. His mode of fishing with the salmon-roe is the following:—"Let the angler, provided with a stiffish single-handed rod and the tackle already described, sally forth either alone or consorted, at most, with one companion in arms. He may either betake himself to one of the accustomed beats, if not previously occupied by another party, or pitch upon some untried piece of water which, although of limited range, possesses the same qualities of depth, speed, and bottom. Near the head of this he ought to select his stand, or post, on a dry and unexposed portion of the bank. There is no necessity, on commencing operations, that he should bait the spot. This in the course of a few throws will be done quite sufficiently without occasioning, as the other practice does, the gorging and repletion of a portion of the fish further down. In throwing, the angler should generally employ a short line, not much exceeding his rod in length, and occasionally a good deal shorter. He can always in that highly discoloured state of water in which the salmon-roe is most effective as a bait, entice his sport to within a yard's distance of the margin. Accordingly he loses no advantage by employing the description of line I have recommended, and in the matter of striking acquires a very important one. Sometimes, however, in certain localities, and where bull-trout or whitlings are observed moving in his vicinity, it may be expedient to increase the length of his cast, or throw; also, in brown or fine waters it is essential to do so. In baiting with the paste, let the angler extract a small portion, equal in size to a horse-bean, from the pot or jar. He requires then to insert it between the projecting barbs of his hooks, in the angle formed by their junction. A slight pressure of the finger will assist in attaching it, but it is not necessary to conceal every portion of the hook as in worm-fishing. When casting, the angler ought to be extremely cautious, lest, by excess of force, he should occasion his bait to drop off..... In the mode of fishing recommended, the angler ought to restrict his operations to a single spot in the range or beat occupied by him, when he will effectually concentrate the feeding trout, and render available a great proportion of his casts. He should always keep his line *taut*, sounding, as it were, the bottom with the leads attached to it; and holding himself on the alert in case of any sudden stoppage by the seizure of the fish." Such is Mr. Stoddart's account of his mode of fishing with the salmon-roe; there seems to be one objection only to its use, namely, that it is too successful; but that is a ground of rejection the force of which the young angler will be little inclined to admit.

Sect. 13.—Salmon-Fishing with the Worm or Fish-Bait.

The most simple kind of tackle used in bottom-fishing for the salmon, is that employed when the worm is used. For this purpose a single hook (Nos. 1 or 2) is whipped to a length of strong single salmon-gut, which should extend at least five or six feet, and then be joined through the intervention of a swivel-hook to the casting-line. The reel-line should be about forty-five yards long, made of good plaited-line or hand-twisted hair-line; and the reel should be of full size, simple, and with the large barrel instead of the multiplier. About two feet from the hook five or six swan-shots are to be applied, or a piece of roll-lead if the stream is very strong and powerful; since the tendency in such cases always is to cast *up* all objects thrown into the water, and therefore the increased weight is required to counteract this power. Sometimes two hooks are used in worm-fishing for salmon (Nos. 1 and 4); the first is tied on below and the latter a little above its shank. The rod for this kind of fishing is the ordinary trolling-rod, with the substitution of a more elastic top for that which is required to manœuvre the bait in minnow-spinning.

The Spinning-Tackle for salmon is exactly similar to that used for the *Salmo Ferox*, or great lake-trout; the only difference being that it requires a greater weight of lead to sink it to the bottom, where the salmon always feed when in search of fish or worms.

The Mode of Baiting the single hook with the worm, is to take two or three lob-worms, or marsh-worms, and run the point of the hook through an inch of one of them near the head, then omit about an inch and a quarter, and insert the hook again through another inch; after which a second worm is to be served in the same way, and if they are not of good size a third, always finishing by leaving the point and barb within the body of the lowest worm, and about

two inches from the point of its tail. In this way the worms lie in four or six loops on the hook, with their heads and tails free, and they are killing in proportion as they are constantly moving in their struggles to free themselves from the hook. In baiting the double hook, the lower one is entered at the head of the worm and brought out at the tail; the worm is then drawn over the point of the upper hook by bending the gut, and it is stretched up to the shank as well as partially over the gut, in which process the point appears projecting from the middle of the worm. Next, transfix another worm with the lower hook, and then impale one half of it upon the upper hook so as to conceal it, leaving the lower half of the worm free; finally, conceal the bend and barb of the lower hook with a third worm.

MINNOWS, PARR, SMOULTS, TROUT, &c., are applied to the hook exactly in the same way as in trout-fishing, remembering always that the bait should be of a larger size, in order to tempt the salmon, and that as the baits are larger so the hooks must correspond in dimensions, in order to carry them properly. ARTIFICIAL FISH-BAITS are used also for salmon similar to those for trout, but larger.

SALMON ARE CHIEFLY TAKEN with the worm or minnow from the beginning of March to the middle of June, but sometimes even in the autumn they may be tempted with the worm or fish-bait. Still water—that is to say, water comparatively still—is the best fitted for bottom-fishing; and in such situations they often take the fish-bait or worm in preference to the fly. It often happens in severe spring frosts when the water is clear, but of a cold uninviting green colour, that the salmon will take the parr-tail freely, and yet refuse the fly *in toto*. But all further rules on this subject are useless, as so much depends upon the variations of the season, that what will suit in one year will fail in an exactly similar condition of water in the following season. The safe plan, when the salmon are shy, is either to try all baits in succession until the killing one is pitched upon, or to watch others doing the same thing, and then to profit by their experience. If, however, the angler is himself trying the various experiments necessary to the final selection, he ought to have a thorough knowledge of the locality, and be able to judge *at a glance*, from the condition of the river, what humour the salmon are likely to be in. It must be known that a pertinacious use of an unseasonable bait not only destroys all chance of sport with other bait on that day, but disgusts the fish with that particular kind of lure for many days, or even weeks to come. Hence this practice is a dangerous weapon in the hands of the tyro, and, though very successful with the experienced hand, is capable of doing great mischief if abused. This is more especially the case with the worm, which requires the water to be exactly in one particular state for its successful employment; and if used at any other time will disgust the fish for a long period. Hence, it is essential to its use that the water shall be just low and clear enough to allow the bait to be seen, and yet that the stream shall be sufficient to carry the worm down at a certain distance from the bed. The fly may be used to any extent, and will not interfere with bottom-fishing; but if the worm has been often exhibited to the salmon, it is useless to repeat the offer for some time to come.

THE MODE OF FISHING for the salmon with the worm is the following:—Let out about twenty feet of line, and attach the worm in one or other of the modes described in page 295. Then let the fisher take his stand on the bank, and draw out a yard and a half of the line from the reel, letting it hang loosely from the butt-end of the rod, so as to offer no impediment to the salmon when he seizes the bait. He then casts his worm well across the water, directing it slightly downwards; the current immediately seizes hold of it, and sweeps it onwards with a tendency towards his own side, and in this sweep the salmon takes it, if so inclined. When it reaches the side of the river on which the angler stands, he must lift it gradually from the water, but without jerking it, and repeat his cast, slightly varying the direction. If during this procedure the fisher experiences any pull, whether decidedly from a fish or from any other cause, he should give out line until he finds some very decided pull upon it, such as to leave no doubt upon his mind that the salmon has bolted the bait, when a very slight elevation of the wrist will strike the hook or hooks into the throat of the salmon, and the angler has only to proceed according to the size of the fish in order to effect his capture. Of course with the strong tackle used in worm-fishing less danger is incurred of losing him than with the fly; but still with large and vigorous fish some care is necessary, and the butt-end of the rod must be advanced pretty constantly, and for some little time, before the gaff or landing-net can be safely called into requisition. IN USING THE SPINNING-

TACKLE with the parr-tail or troutling as a bait, it is spun exactly as for trout; but as the leads are heavier there is more danger of its fouling the bottom; and if so, the angler must proceed as the coachman does with his whip when it is fast in a buckle or trace—that is to say, he must by a rapid throw of the rod suddenly slacken his line and thrust the bait away from him. This often succeeds; but if it fails, recourse must be had to a long-forked stick, or the clearing-ring, or drag-hook (see page 280), by which a great part, if not all of the line may be saved; and as the loss of a part is better than the whole, so the loss of the hook will be borne better than that of the whole of the tackle.

SECT. 14.—GRAYLING BOTTOM-FISHING.

THE TACKLE FOR GRAYLING must be of the finest description; and most grayling-fishers prefer a single-hair casting line on that account. This or a single-gut length of six or seven feet, with a swan-quill float and a fine hook of No. 6, 7, or 8, will complete the equipment for this species of sport—that is to say, in conjunction with a rod of sixteen or seventeen feet in length, and a reel and reel-line of such dimensions as to afford about twenty-five or thirty yards of available line. Three or four No. 2 shot will generally be wanted, or if gentles are used, No. 4 or 5 will be heavy enough.

THE BEST BAITS for graylings are the gentle (well scoured), the caddis-worm, and the brandling, or the red-worm. The various grubs are also employed with success in grayling-fishing; indeed all the small larvæ will take this fish, but none are better than the gentle and the caddis-worm. GROUND-BAITING should always be practised, but not too profusely, as this fish is more easily satiated than some others in which ground-baiting is employed; and it is also less discriminating, so that it will take unscoured ground-bait as readily as the well-scoured bait on the hook. Still without the temptation afforded by a few unbaited gentles, it will be less likely to take the armed ones with avidity, and will consequently refuse to be charmed out of its gravelly bed. The minnow is not often taken by the grayling, but occasionally it has been used with success; still, the grayling-fisher will waste his time by endeavouring to capture this fish with any bottom-lure but those which I have specified above.

GRAYLING ARE IN SEASON in the autumn, coming in just as the trout go out. They spawn in April and May, and come round so as to be edible by the end of July; but they are not in high season till the 1st of September. They are found in clear gravelly streams, as well as those which are loaded with mud, such as the Wye in the lower part of its course; but in the latter kind of river they are not so fine and beautifully coloured as in the pellucid and gravelly bed of the Teme, and the upper course of the Severn, as well as in the Wye above Hereford. Unlike the trout, they are not spread over the three kingdoms, but are confined to about twelve or eighteen rivers, including, chiefly, the Wye, Usk, Lug, Teme, Severn, Dove, Trent, and Humber. From this circumstance, they have been supposed to have been introduced into this country by the monks, and the theory is very probably correct, though wholly incapable of proof.

THE GRAYLING is taken either by simple float-angling (the angler striking pretty quickly, but gently) or by dipping (see page 298) or sinking and drawing. The depth at which the bait is to lie varies much, but in general, during the first part of the season, these fish feed near the surface, and later on nearer the bottom. All sorts of natural flies and grasshoppers may be used successfully as dippers, and the artificial fly also; but as this will be hereafter treated of under the head of Fly-fishing, it will be unnecessary to allude more fully to this mode in the present chapter. Grayling play pretty freely at first, but do not fight nearly so strongly as the trout of the same size; hence, even with the single hair, they may generally be landed in twenty minutes, or even less; and the instances in which tackle is broken by this fish, in the hands of a skilful angler, are rare indeed.

CHAPTER IV.

NATURAL AND ARTIFICIAL FLY-FISHING.

SECT. 1.—THE FISH WHICH WILL TAKE THE FLY.

In the chapter on Bottom-fishing I have remarked, that all fish may be taken by that mode; but now it must be explained that the circle from which the victims of the fly-fishers' art are to be selected is much more limited. He may, however, flatter himself that all, or nearly so, of the most prized varieties are included in his list, and this is the case not only in the British islands but in almost all countries. In India fly-fishing is practised to a great extent, and indeed wherever the *salmonidæ* are found it may be freely indulged in. The following list includes all those fish which will take the fly so freely as to be worth the angler's notice; and I shall describe the particular mode of fishing for them in the order of their value, not only as edible fish, but as affording sport to the angler, beginning with the little playful bleak, and ending with the lordly salmon. They are—first, bleak; secondly, dace; thirdly, roach; fourthly, chub; fifthly, grayling; sixthly, trout in all its varieties; seventhly, salmon.

SECT. 2.—VARIETIES OF FLY-FISHING.

NATURAL FLY-FISHING consists in the use of the various living flies, grasshoppers, &c., which are found on the banks of rivers and lakes. It is practised by a process which is called DIPPING, but chiefly in such situations as are so much overhung with bushes as to preclude the use of the artificial fly. In these spots the water is generally still, and there is no possibility of offering the lure in any other position than a state of almost entire quiescence. Hence all imitations are easily discoverable; and the real fly and grasshopper, &c., are the only surface-baits which the fish will take.

ARTIFICIAL FLY-FISHING, on the other hand, consists in the use of imitations of these flies, and also of other fancy flies, by means of an elastic rod and fine tackle, and by a process which is called whipping. All fish which will take the one will take the other kind of lure, but not always with an equal degree of avidity, as we shall hereafter find; but as the principle is the same in both cases, they are better treated of together, rather than to go over the same ground a second time.

SECT. 3.—THE APPARATUS REQUIRED IN DIPPING AND WHIPPING.

THE TACKLE FOR DIPPING is much more simple than that employed in whipping, and it consists of a moderately short and stiff rod (the spinning or trolling-rod, minus its butt-joint, answers this purpose well)—of a short but strong reel-line of hand-twisted hair—of a single length, or two at most, of gut—and of a fine hook suited in size to the bait and fish. In dipping, it is usual to lengthen or shorten the line, which is used from a foot in length to two or three yards, by coiling it round the end of the top joint, and uncoiling it as the line is wished to be extended, and after the rod has been insinuated through the trees or bushes growing on the banks. Some anglers use a reel fixed upon the lower part of the second joint, and with a hair-line it acts pretty well; but with a plaited one it is difficult to protrude the line from the end of the rod without so great a degree of disturbance as to alarm the fish. The uncoiling from the end of the rod is not unattended with this disadvantage; but it is less objectionable than doing so entirely from the reel, though I think, for the sake of convenience, that appendage may be added, taking care to have the lowest joint free, so as to be able to shorten the rod by that amount at pleasure.

FOR WHIPPING, OR FLY-FISHING as it is generally called—that is, for the use of the artificial fly—a rod, either single or two-handed, according to circumstances, is required, with a fine reel-line and large barrelled-reel; and also a long casting-line, with one, two, or three droppers, each armed with a fly.

THE FLY-ROD is either a single-handed one, or, when used for the larger varieties of the trout or for salmon, the two-handed rod. Both of these rods are usually made of the same materials, and they differ only in size, the single-handed varying from eleven to thirteen feet in length, while the two-handed extends from fourteen to twenty feet. They are both usually made in four or five lengths, but in Scotland they are, I believe, seldom in more than three pieces. The butt-end is generally an ash-sapling, sometimes solid, and at others hollowed out to receive the small joints. The middle

joints are almost always made of hickory, and the top joint either of lancewood alone, or of that wood spliced with the bamboo and strengthened with silk. Many of the best and lightest fly-rods are now made, except the butt-end, of rent and glued bamboo; and none are more beautiful and efficient than these if properly used; but they are very fragile in careless hands, and therefore scarcely fitted for the young angler. Mr. Blacker's rods are of the most beautiful construction, and may be obtained at a price varying from two guineas upwards. They are far superior to any of home manufacture, or to those obtained at inferior and cheaper shops. Nothing in the whole range of the manufacture of fishing-tackle requires greater skill than the putting together of a good fly-rod; for it must possess great pliancy and strength, and yet it must balance exactly in the hand, and *yield equally in every part*. This last quality is essential to the due management of the fly, for without it it is impossible, except by long use of the same rod, to do full justice to the art which is under consideration. These various materials are generally brought up in colour to that of the red hickory, by means of the application of a mineral acid, aided sometimes by logwood if the colour is desired to be very dark. Finally the whole rod is varnished, and this process should be repeated at the end of each season before the rod is put by. The portions of the rod are united together in the same way as the bottom-fishing rod, by means of brass ferules; but, in addition, a small pin, or a flat hook of doubled and bent wire, is usually fixed close to the socket and head of each piece, and after the latter is passed into the former these pins are united by a few turns of waxed silk, in the form of a figure of 8, so as to prevent the force exerted in throwing the fly from separating the rod into two or more portions. On finishing the day's fishing these may be cut away or retained at the discretion of the fisher, who will sometimes prefer keeping his rod together from day to day, to the trouble of repeating this operation on each visit to the river. About from ten to fourteen good-sized rings should be fixed on that side of the rod on which the reel is used, whichever that may be; and they may be applied by means of a piece of quill and a few turns of waxed silk above and below the ring. At the butt-end a SPIKE, which is capable of being withdrawn like a toothpick into its case, is exceedingly useful; and as its weight serves to balance the outward length of the rod, it is rather advantageous than otherwise. It is moreover so useful in fixing the rod while recovering the fly when entangled, that I should strongly advise the young angler to adopt it, or to have with him a screw-spike capable of being attached whenever that unpleasant occurrence takes place. THE REEL is either simple, with a large drum or central barrel, or otherwise. The multiplier is made with a series of wheels, which are intended to give out and take in the line more rapidly than the simple machine. In this desirable point I am satisfied that the object is attained much more completely by the simple large drum; for though the multiplier is very pretty in theory, yet in practice it is constantly failing in its powers when tested by a strong fish. Besides this, the large drum actually gives out line much faster than the multiplier, and has therefore that point in its favour; while in taking it in, he must be a bungler indeed who cannot wind the winch or handle rapidly enough to do all which he wishes to effect; and it is quite certain, that what is done is better and more smoothly done in this way than by the aid of wheels and cogs, which are liable to jerks and interruptions. Upon this reel is wound from thirty to eighty yards of line, varying with the rod and the fish for which it is to be used; thus, the smaller fish, including the ordinary run of common trout and the grayling, will require only thirty or thirty-five yards, while the larger varieties of trout and the salmon should always have from sixty to eighty yards ready for their capture. The HAIR-LINE, as made by the hand, I have already described at page 265, and I believe this, if well made by a careful yet handy man, will be superior to those usually sold in the shops, and made by the machine. It should be regularly tapered, and should vary in strength from twenty-four hairs down to fourteen for salmon, and from eighteen down to ten or twelve for trout. The tapering portion, however, should only extend, in the trout-line, as far as it is clear of the reel, which may be estimated at about half the length of the line; and in the salmon line only for about twenty yards from the end. Plaited silk lines are now much used, especially for salmon, but I confess I have never seen any line which could be thrown with as much certainty as the hand-made horse-hair line. It has just sufficient stiffness to carry itself smoothly through the air, with pliancy enough to adapt itself to all the varying evolutions of the angler's wrists and arms. Nevertheless, I am aware that many good anglers give

the preference to the plaited line, and it is no doubt very superior to the old machine-twisted article, which was constantly "kinking," and from that circumstance liable to break. THE CASTING-LINE is composed of two, and sometimes of three portions; the first, or extreme portion, consisting, in all cases, of several lengths of single-gut carefully knotted together, with or without silk "lapping;" the next portion is usually of treble-gut, twisted by the machine, or by the quills and bobbins which I have described at page 265. To these some anglers add a third portion of twisted hair, which however is unnecessary if the reel-line is properly tapered, and is of hair also. The great principle to be carried out is to taper the line from the point of the rod to the end, so that in working it through the air it shall play smoothly, and obey the hand to the greatest nicety. In this respect it should imitate the four-in-hand whip, which is so graduated that it tapers all the way, and is hence capable of taking a fly off the leader's ear. The gut varies in strength and size, from that required for the salmon to the finer sizes used in grayling or small trout-fishing. The single gut portion is generally about two yards long, and terminates in a fly which is called the stretcher, and which is either dressed on a length of gut, or has a fine loop left at its head by which it may be attached to any fresh length of gut. About three or four feet from this stretcher another fly, called a dropper, is attached by means of a short length of gut, usually about three or four inches long; and at the junction of the single gut with the twisted portion there is another dropper, with a somewhat longer length of gut. If more than two droppers are used, the single gut length is increased to eight feet, and the third dropper is then introduced midway between the two already described, with a length of gut of about six inches, while that of the highest is increased to eight; by which gradual increase of length the stretcher and the droppers all ought to touch the water at the same time, while the foot-length of the casting-line extends in a gentle sweep from the stretcher to the point of the rod. The mode of attaching these droppers to the casting-line is by opening the water-knots, and then introducing the dropper-gut between their two portions, after having previously knotted its end. This should be done as neatly as possible, to avoid making an unsightly projection. Most anglers whip the ends of the water-knots with white silk waxed with white wax, and also take a few turns round the dropper-gut to make all secure. The ARTIFICIAL FLIES have been already fully described in the second chapter.

SECT. 4.—BLEAK-FISHING, AND GENERAL DIRECTIONS FOR THROWING THE FLY.

WHIPPING FOR BLEAK forms the best introduction to the use of the fly-rod, especially as these little fish may be met with on almost all our canals and rivers, and often in situations where there are no trees to interfere with the use of the line. Almost any small midge or gnat will take the bleak, and the tackle throughout should be of the finest description, with a light single-handed rod of about 11 or 12 feet in length. The young angler should now take as much pains in throwing his fly as if he were intent upon the capture of the finest salmon. In watching the evolutions of the general run of fishermen, it is common enough to see two or three feet of line touching the water before the fly, whereas the contrary ought to be the case, and the fly should alight on the water as airily and gently as its natural prototype, with scarcely any portion of the line following its example by coming into contact with the water at all. If the angler will only endeavour to avoid jerking his line, and will coax his fly rather than force it forwards, he will soon see the difference. The cast or throw is effected as follows, when the rod is light and there is plenty of elbow room. I am now supposing that the angler has a rod of 11 feet in length, and a line, altogether, of about eighteen, with either a single stretcher, or in addition one or two droppers, all very minute; he takes the casting-line in his left hand, at such a distance from the fly that it is quite clear of the ground, and with the rod pointing forward and to the left; then at the moment when he looses the line, he, with a half side and half backward movement of the arm, sweeps the line in a gentle curve till it is well behind and above him. It is at this point that the first mistake is likely to occur, as here the awkward hand generally jerks his fly (which is sometimes even whipped off with a snap), and after this jerk he can never regain that even and smooth flow which would otherwise follow its alteration from the backward to the forward direction. When this movement is elegantly and effectively carried out, the line, without any abrupt change, is brought round the head from the backward to the forward movement without passing directly overhead, but in a line considerably above the level of the head of the angler; when it has passed before the body, it is thrown for-

wards *at the full length of the arm*, and, without the slightest hurry, to the point which it is intended the fly shall alight upon. If this is badly executed, and with any jerk, the line is doubled upon itself, and the loop thus made touches the water whilst the fly is two or three feet from its destination, and finally descends with a whole series of convolutions of gut or hair, enough to alarm all the fish within sight. This is called throwing from the left shoulder, from which mode throwing from the right shoulder, or back-casting, differs in bringing the rod and arm (after they have achieved the backward movement) forwards again by the side of the head, delivering the fly over the right shoulder without making the complete circular sweep behind the body. Sometimes when it is desirable to throw the fly with great delicacy, it is dried by waving the line from right to left over the head, in the form of a figure of 8; but this can only be effectively done with a single fly, as the droppers interfere with the manœuvre too much to allow of its being tried when they are used. The young angler should practise both methods, and should never consider that he has mastered the first great difficulty until he has acquired the power of dropping his fly upon the water tolerably near a given spot by both the above methods, and without its being preceded by any portion of the line, or followed by more than a few inches of it. As soon as he has thus dropped his fly he begins to draw it more or less directly to him, and with a series of jerks, varying a good deal according to the fly and the fish to be taken. In whipping for bleak, very little more need be done than to bring the fly gently and steadily towards the bank, and then repeat the cast in a fresh direction. When hooked, they may be landed at once, even with a single hair-line. DIPPING may be practised with the bleak, using the natural house-fly, or in fact any small fly; but it requires very little art, and I shall therefore postpone the description of this species of fishing until the section treating of Chub-fishing.

SECT. 5.—ROACH AND DACE.

DACE may be taken with the artificial fly, and afford even better practice than the bleak, since they will take a coarser fly, and the tackle may be somewhat larger in proportion. The line, therefore, having more substance is more easily handled, and the fly may be manœuvered to a much greater nicety. Black and red palmers, or gnats, will generally take dace; and two droppers may be added in almost all cases to the stretcher, the angler varying the fly upon each.

ROACH may also be taken with the same flies and tackle, but they do not rise to the fly nearly so well as the dace and bleak.

DIPPING may also be used with both of these fish, but they will in general take the artificial fly quite as readily, even in still water.

SECT. 6.—MODE OF TAKING CHUB WITH THE ARTIFICIAL AND NATURAL FLY.

THESE FISH generally lie under the shade of willows or other trees, and very often are difficult to get at with the artificial fly, which, moreover, they do not at any time take so readily as the natural one. Sometimes, however, good chub may be taken in the middle of the day, while basking on the surface of the water, by means of fine tackle and an artificial humble-bee, or a small red hackle, or an ant-fly, on a No. 6 or 7 hook; but their best time is in the mornings and evenings. When they do take the fly on this fine tackle, they require great care at first, as they fight very hard for a short time; and are, on that account, excellent practice for the embryo salmon-fisher.

IN DIPPING FOR CHUB, which is the best and most certain mode of bringing them to the basket, the following flies, &c., will be found most useful:—First, the blue-bottle fly (two of which may be put on one hook) is a most killing bait for chub; secondly, hairy caterpillars; thirdly, beetles of all kinds, including cockchafers; fourthly, grasshoppers and humble-bees also are among these most destructive lures; and lastly, the May-fly is a certain killer. All these various natural baits must be used very cautiously, and the angler should make as little noise as possible, and should hide himself behind as large a tree as he can find. The beetle, or other bait, having been applied on the hook so that the barb lies under the division between the wing-cases, the quantity of line necessary, which seldom exceeds two yards, is coiled around the end of the rod, so as to be capable in this state of being protruded quietly through an opening in the overhanging branches of the trees, whose shade the chub chiefly affects. When the trolling-rod, thus armed, has insinuated itself, and is clear of all obstruction, it may be very gently turned round so as to lengthen the line by unrolling it, and the bait in the most imperceptible manner is suffered to reach the water. If there are water-lilies or other flat leaves floating on the water, a good plan is to drop the beetle on one of them, and then gently

draw it off the side into the water, when, if there is a chub near, he generally seizes upon it. But in all cases avoid a splash, and let the armed hook reach the water so gently as to cause scarcely a ripple. When there it may be very gently jerked in all directions, a few inches at a time; avoiding all contact of the line with the water, and imitating the movements on the water of the insects which frequent it. In this way good fish may generally be tempted to their fate, and when hooked, may be played and landed in the same way as with the artificial fly; but as the rod is not so suited to this purpose, owing to its stiffness, and as the line is shorter, the chub must be mastered and landed with the net as soon as possible.

Sect. 7.—Grayling-Fishing.

With the Artificial Fly the grayling affords good sport; and as this fish is in season at a time when salmon and trout are going or gone out, it is highly prized on that account, if not owing to its intrinsic sport-giving powers.

The Flies for Grayling are similar to those for trout, and especially to those used in the autumn. Nos. 1, 2, 3, and 5, of the trouting-flies, at page 277, may be used early in the season; and later on, Nos. 7, 8, and 9. Sometimes the May-fly will take these fish, but not very commonly, except at a time when they are not considered so fit for the table as in the later months of the year. The winged larva, No. 16 in the preceding list, will also take the grayling; and it may be used with advantage on a stretcher with droppers of Nos. 7 and 8. The trout casting-line should be used with a rod of about eleven or twelve feet in length, and a reel and reel-line of thirty yards will suffice, as the grayling very rarely exceeds two pounds in weight, and the average in most rivers is not much above one pound.

In Fishing for grayling with the artificial fly, there is not much occasion for concealment, as this fish is very bold and fearless of the presence of man. When hooked there is little necessity for striking, as the hold on the mouth is not in any case good, and the attempt to improve it by striking often ends in breaking the hook away from its hold. At first plenty of liberty should be given, short however of a slack line; but in a very few minutes the attempt may be made to wind-up, and this will seldom be resisted. Grayling do not fight very severely, and are not nearly so violent as the chub; they sometimes, however, are strong enough to break away, because their mouths are so tender and the hooks used so small, on account of the limited size of their jaws, as compared with the trout. But the line is seldom in danger, and if the hook is only securely fixed, the landing of its victim is safe enough.

Dipping for Grayling may be practised as for chub, but with flies only, avoiding beetles and grasshoppers. It is not, however, a plan often adopted, since the grayling will generally take either the artificial fly or some kind of bottom-bait better than any natural fly, by the dipping process.

Sect. 8.—Trout-Fishing.

The Tackle required for this most beautiful and exciting sport is described in the third section of this chapter, page 298.

The Mode of Using it has also been to a certain extent explained in the next section, at page 300. Some few peculiarities, however, must be alluded to in the following account of fly-fishing for trout, which differs in many respects from all other kinds of sport practised on the waters of this country with the rod and line. Unlike the mere whipping for bleak, which I have dilated upon as forming an excellent introduction to trout-fishing, the latter requires great caution not to scare the fish, either by the too near presence of the angler, or by the awkward manipulation of his line and flies. The management of the two-handed rod will more properly come under salmon and lake-trout fishing, for although it is sometimes employed in fishing for common trout in large and wide rivers, yet it can scarcely even then be needed, and it certainly loses in delicacy of manipulation much more than it gains in its power of controlling a larger extent of water. Different men adopt various plans of throwing the fly, but it is of little consequence which mode of many is followed, so that the angler has only entire command of his rod and line, *and can do what he likes with his flies*. When this perfection of casting is arrived at, the angler may choose whether he will fish up-stream or down, but he will soon find out by experience that the wind in his back is advantageous to him, and that he will scarcely succeed in any case in casting his fly in the face of a strong breeze. Beyond this no rule will in all cases apply, and the fly-fisher must use his own discretion, founded in great measure upon practical observation, as to the precise mode in which he will reach and fish particular parts of the water that he believes to be the resort of good trout. Indeed it is use-

less to attempt instructing the tyro by theoretical lessons in the details of an art in which it is certain that nothing but practice can give any degree of proficiency. This is constantly shown even in the professed fly-fisher of two or three seasons' experience, who throws his fly with all the most approved motions, and is beforehand fully convinced that he is the equal of any angler, from John o' Groat's to the Lands-end; but, when he sees fish after fish hooked and landed by some older hand following in his wake, and using the very same fly, with perhaps an inferior rod, he is obliged to confess that theory must succumb to delicacy of handling, and that fly-fishing is a practical art, rather than a science attainable in the closet. The various degrees of success mark the difference between the master and the scholar, and show that a life-time may be spent in acquiring the power of deceiving this wary fish, and yet there may be room for improvement; hence it is that so many men of talent have been devotees to the fly-rod, and while they have enjoyed the beauties of nature displayed to them during the prosecution of their sport, they have nevertheless been much more deeply engaged in acquiring the art of fascinating a fish seldom of more than twenty ounces in weight. No one of these men would care for taking trout in any way unaccompanied by difficulty, and attainable without dexterity; but when it is found that by long practice and careful observation a feat can be accomplished which no other means will give, then the man who has mastered the power congratulates himself upon its possession, and is not unnaturally pleased in being enabled to display it by showing what may be done after another's failure. Rivalry is the great zest in sport of all kinds, and the trout taken by an artist, in water which has been well flogged by his inferiors, are thought much more of than those landed where they rise to any bungler's throw. But to proceed to such a general description as may be of some little use to the tyro, I must first observe, that he should confine himself to a single-handed rod with a moderately long line—say, of from fifteen to eighteen feet, which he should at once draw off the reel, and of which he should hold the gut in his hand near the fly. With this he may proceed to fish the river which is the seat of his intended sport, and may walk quietly along its bank, throwing successively over every yard of likely water; but always fishing first the water nearest to him, and lengthening or shortening his line according to circumstances, such as the breadth of water, the freedom from trees, &c. He will find that he must not throw straight across the river, neither must he allow the fly or flies to be drawn too near his own bank, or he will not be able to lift them cleverly from the water, so as to get such a clear sweep as will enable him to recast them with precision and delicacy. Hence, instead of fishing the water under his feet, he will throw his flies so as to take the edge next his own bank at the length of his line; and will thus successively throw over all on his side long before his person is seen; and when he brings his flies up to within ten or twelve feet of where he is standing, he may lift them, because he has already well tried that portion of the water. But besides the excellence in throwing the fly, there is also a great art in STRIKING AND HOOKING the fish exactly at the right time, and with the proper degree of force. When the trout rises at the fly, which may always be seen by the angler, the rod should be raised with a motion upwards of the wrist only, avoiding, as far as the excitement of the moment will permit, all shoulder or elbow-work, and using just such a degree of wrist-action as may be judged will fasten so sharp an implement as the hook in so soft a substance as the mouth of the trout. Theoretically this may easily be estimated, but practically it will be found that the tyro generally jerks hard enough to strike a blunt hook deep into the jaws of a shark or dolphin. The object of striking at all is to prevent the fish from having time to discover his mistake, the natural consequence of which would be to "blow-out" the fly from his mouth. The fly-fisher, therefore, waits till the moment when the fly is actually within the lips of his victim, and then, with a gentle yet rapid wrist-action, he fixes the hook there. This is much more easily done with a light single-handed rod than with one used by both hands, and hence it is advisable for this reason, as well as on account of the greater facilities in casting with it, to limit the young trout-fisher to its use. IN PLAYING trout when hooked, much depends upon their size; if small, they may be landed immediately; but if above half or three-quarters of a pound, according to the fineness of the tackle, and the gameness of the fish of that locality, it is necessary to yield to his powers for a time, and to give him line for running; always taking care not to give him so much liberty as to enable him to reach adjacent weeds, or to rub his nose

against the ground, and thus, in either way, get rid of his hook. When tolerably exhausted, by advancing the butt of the rod and so using its flexibility as a safety-spring, the reel may be gradually wound up until the fish is brought near enough to be dropped quietly into the landing-net, after which it may be considered secure. But whoever has charge of the net must keep well out of sight of the hooked fish until he is effectually exhausted, or he will be sure to make fresh struggles, and often to such an extent as to cause his loss. The fly may easily be cut out of the lip with the penknife, and is generally none the worse for the service it has performed.

GOOD TROUT are found in almost all the gravelly and quick-running rivers of Great Britain and Ireland, but they vary much in size and gameness, without which latter quality they are little valued by the fly-fisher. In Scotland they are highly prized, since they afford excellent sport, and are also of good size and flavour.

SEA AND LAKE TROUT, when they take the fly, are to be managed in the same way as salmon, whose size and strength they approach much more nearly than those of the common trout.

SECT. 9.—SALMON-FISHING.

FOR THE SALMON, tackle must be employed of a description much stronger than that used for trout; in principle, however, it is nearly similar; and a salmon-rod with its line may be compared, in all respects, to a trout-rod magnified with a slight power of the microscope.

THE SALMON-ROD should be from fourteen to twenty feet in length, and should be made of three or four lengths, at the discretion of the fisher. The butt is always of ash, the middle piece or pieces of hickory, perfectly free from flaw, and the top-piece of the best bamboo, either rent and glued up or spliced in lengths, which of course only extend from joint to joint; this is better than lance-wood, which is apt to make the rod top-heavy. Anglers of note differ as to the nature of the joints, which are sometimes made to screw together; at others, with the bare wood of one joint dropping into the brazen ferule terminating its next neighbour; and at others again, by having both ends brazed, so as to oppose brass to brass. In both the latter cases the double-pin, or bent-wire, and silk-fastening, as described at page 299, are used, in order to prevent their becoming loose or unattached, in the ardour of fishing. The rod should balance pretty evenly at the part where the upper hand grasps it above the reel, which is usually fixed at eighteen or twenty inches from the butt-end. These essential characteristics, coupled with those already given at page 299, will suffice for the description of the salmon-rod. The REEL-LINE has also been there described, and is of eighty to a hundred yards in length, with the last twenty only tapered down to little more than half its regular size. To this is appended a casting-line, made on the same plan as the trout-line, but one-third longer in all its parts, and entirely of gut, which should be of the size called salmon-gut. The FLIES for salmon are described at page 280. When a dropper is used, it is generally appended at about four feet from the end.

THESE IMPLEMENTS ARE USED ON a scale very different to trout-fishing, and, generally speaking, with less delicacy in proportion to the increase of sweep, and the coarseness of the tackle; but in salmon-fishing so much depends upon the extent of water covered in throwing the fly, that no pains should be spared to acquire this power as fully as possible. It must be remembered that in salmon fishing, unlike trout-fishing, the river is often too broad for any line to reach nearly over all the good casts, and success is here often obtained solely by the power which some men have of sending their fly into parts which their weaker or less expert rivals cannot possibly cover. With the young angler, the first thing to be done is to secure the assistance of some resident guide well acquainted with the haunts of the fish, who will give him confidence, if he does nothing else. Without his aid the angler if unsuccessful, will wander from point to point, and will be unable to do justice to himself, because he has no confidence that there are fish where he is trying for them. Indeed, even the experienced salmon-fisher is all the better for this assistance, if he is on strange water, as though he may give a shrewd general guess as to the most probable casts for fish, he will often pass over good ones, and select those which are much inferior to his rejected localities. He will also get some information as to the probability of his flies suiting the particular river and time, and generally as to the fitness of his arrangements for that precise spot. This knowledge, once obtained, will serve as long as the river continues in the same state; but if rain, or the reverse, should alter the condition of the water, making it either much lower or much higher than before, the tyro will require

additional aid from his *quondam* friend. This is known to all salmon-fishers, inasmuch as these fish frequent very different parts of the same river in low, and, again, in a high state of the water; and the flies will also require considerable modification, according to these changing elements. There are, however, some general rules which may be of service, though they by no means apply in all cases. Thus, large rivers usually require larger flies than small streams, which latter will more often be successfully fished with a gaudy but comparatively small fly—that is, if the water is not too clear. The fish, generally lying at the bottom, will scarcely be attracted from the depth of a large river by a small fly, whilst, if it is too gaudy, they are scared by its colours when they rise near the surface. Again, in small streams salmon seldom take any fly, except when the water is rather discoloured, and in that state a dusky or dull one is not sufficiently attractive; and when the same condition of water exists in the large rivers a gaudy colour will also be preferred. The size of the fly is of course an index to that of the hook, which is its foundation. Beyond these imperfect hints little aid can be given to the tyro, and he must learn by experience in his own person, or from that of others, the peculiar rules applicable to each locality.

THE CASTING is generally from the left shoulder, backwards; after which the line is steadily and rather slowly brought over the right shoulder, with the rod held in both hands, and its point directed upwards and backwards. It is then brought forwards with an increase in speed and force, when, still accelerating the speed, the angler delivers his fly at the spot upon which he wishes it to alight. This throwing from the left shoulder is chiefly useful where there are low bushes or other impediments near the ground behind the angler, under which circumstances the fly must be kept aloft; but sometimes the reverse is the case, and with impending trees and a bare background, the right shoulder or back-casting will avail much better than the rival mode above alluded to; but it is not so manageable with the two-handed rod as with the light single-handed trout-rod, which may be used with as much certainty and facility as the four-in-hand whip. Mr. Stoddart lays it down as a rule that no man can manage properly without the aid of the wind, a line more than four times the length of his rod, measuring from the fly to its point, and not including that part within the rings. This is certainly much within what is generally considered the extreme length of the salmon-line, and many professed fishers maintain that they can throw nearly twice as far as that length will command. But there is a vast difference between simply throwing a fly and throwing it cleverly and effectually; still I cannot help thinking that Mr. Stoddart has a little understated the power of the salmon-rod and line in good hands, when he limits the range to thirty-five yards from the spot where the angler stands. This I should say is about the average length of good fly-fishers, but I should think that some few tall and muscular men, who are also adepts, can command nearly ten yards more, when the air is perfectly still and the situation is favourable to the display of their power and skill. Much must depend upon the tackle, which should be very nicely graduated, and if the cast is intended to be very extensive, one fly only should be used; indeed, in salmon-fishing it is seldom that much good is derived from a dropper in addition to the stretcher. When the fly is to be thrown in a wide river of rather sluggish current, it may be directed nearly straight across, especially if the opposite bank can be reached, and the fly, after it has touched the water, may be brought back with a circular sweep, keeping the rod low until it is absolutely necessary to raise it in order to bring home the fly, and working it by gentle fits and starts, so as to imitate the movements of a living insect. When, however, there is a considerable stream, the fly may be thrown obliquely downwards, as in trout-fishing, and is then brought back against the stream, and often without that attempt at jerking, which must be made in comparatively still water. In all cases the salmon-fisher should keep as much as possible out of sight; and when he has recourse to wading, he should only enter the water which he has already effectually tried; and when there, he should make as little disturbance in it as he can possibly avoid. In this respect, however, salmon are duller and less wary than common trout, or even than sea-trout; but still they are easily scared, and no one should incautiously run risks which are not absolutely required. The fly is worked very differently to the trout-fly, which must always be on the top of the water to be effectual; whereas the salmon-fly should always be sufficiently under the water to avoid making any ripple as it is drawn towards the thrower, and yet not so deep as to be wholly out of sight. The young angler should not, however, follow his lure too closely with his eye, or

he will be apt to strike when the fish rises at it; whereas, he should always depend upon the sense of touch before he raises his rod, which is the only motion to be adopted. Sharp striking as in trout-fishing, is wholly reprehensible; and all that is required is the instinctive stand which it is impossible to avoid making, against the fish as he seizes the fly to run away with it. Sometimes, however, it is found difficult, or even impossible, to tempt the salmon into actually seizing the fly; they will rise at it again and again, but from some cause or other refuse to take it into their jaws. In this case it must be changed until one is found to suit their fancy, but the change need not be made until the same fly has been tried two or three times unsuccessfully. Patience and perseverance, with skill and science, will here be required, and will always be served in the long-run.

In Playing the salmon, greater art is required than in the corresponding department of trout-fishing; and, in consequence, nearly one-third of all the fish hooked escape before they are landed. This arises generally from imperfect hooking, but often also from defect in the tackle, which has escaped the notice of the angler. Besides these causes of danger, there are others depending upon the direction taken by the fish, which cannot always be followed by the angler; either from the depth of the water in large rivers, or from mechanical causes in the shape of rocks, woods, &c., where the stream is smaller. When hooked, the first thing to be done is to raise the point of the rod, commonly called "giving the fish the butt," which motion must be carried out with as much power as the fisher considers his tackle will bear; always remembering to give way by releasing the line when the strain is too great for it to bear, and when the fish is resolutely bent upon running. But this exact calculation as to restraining or giving way is sometimes very difficult, especially as the size of the fish is no certain index to his power; nor can the size always be correctly estimated at the first commencement of the struggle, especially by the tyro at this kind of sport. A lively and fresh run fish will appear twice as big as he really is, whilst a large but dull one will sometimes deceive his pursuer into the belief that he is weak and powerless, and then in a fit of desperation he will show his real size and capabilities by breaking away with a long line towing astern. Mr. Stoddart's directions for playing the salmon are so good, that I am tempted to quote them in his own words:—"Always in running a fish, keep well up to, or, if possible, at right angles with its head. In the event of its taking across the current, instead of stemming or descending it, give the butt without reserve. In the case of a plunge or somerset, slacken line as quickly as possible, but lose no time in recovering it when the danger is over. When fish are plentiful and in the humour to take the fly, it is better to risk the loss of an indifferent-sized individual which you happen to have hooked, than to allow a long range of unfinished water to become disturbed through its capricious movements. In this case stint the line and hold on obdurately, but not beyond the presumed strength of your tackle. During the grilse season there are many portions of water, on the Tweed especially, where it would be absolute folly in the angler were he to humour the fish to its heart's content. A lively nervous grilse may occasion more alarm among its kind than one is aware of, especially if the water be of the transparent hue it generally bears during the summer and autumnal months. In event, however, of the salmon being few, or rising shyly, I would advise that some degree of care and ceremony be taken with what fortune brings to the hook; and that on such occasions more regard be paid to the management of the fish under control than to the non-disturbance of a few yards of stream, where the chances of adding to one's success are at the least extremely doubtful. In these circumstances avoid using undue violence. Should the fish escape, the consciousness of your having done so will only add to the disappointment. There is one precaution particularly to be attended to in respect to a newly run fish, and that is, immediately on hooking it to use a moderate degree of pressure. The salmon will then brave or stem the current, and direct its course upwards; whereas, on tightening the reins, it will frequently do the reverse, and thus not only may a portion of the water in prospect become disturbed, but there is considerable chance, and in some places an absolute certainty, of the fish, if a large one, making its escape." Baggits generally descend the stream, as a rule, when hooked, and no management will make them leave the current; but as they fight sluggishly, and as their loss is of little consequence, provided they do not run away with a good line, the butt may be shown them pretty early, and with a considerable degree of power.

The Gaff is to be used in the following manner:—When the salmon has been thoroughly exhausted by his efforts to free himself from the hook, in which he has been

opposed by the elastic resistance offered by the rod, he is brought near the bank, still keeping the butt-end of the rod well advanced, and the assistant then proceeds to strike the gaff into the shoulder of the fish, or if he uses the single hook, to insert it into the gill-cover. The latter plan is the least injurious to the beauty of the fish, and in skilful hands will answer every purpose. In all cases, however, the assistant should keep out of sight until the angler is satisfied, by the yielding of the fish, that it is safe for him to approach, for a neglect of this precaution leads to the loss of many a fish. The assistant, or gillie, attempting to strike him before he is spent only makes him desperate; and the efforts to escape, which before this were within bounds and under the control of the angler, are now rendered madly violent. This tries even good tackle too far, and either the hook itself or the gut gives way, or else the hold on the fish actually tears away. Tact and experience are the only safe guides in this delicate point, and without them apparent victory often ends in defeat. Instead of the gaff or hook the landing-net is much used; and in the south, as well as in Wales, is perhaps more in vogue than the gaff. The only objection is its size; but as both must be carried by a gillie, since neither can be well managed by the angler himself, this is really of little consequence. If, however, the angler is either unable or unwilling to obtain an assistant, the hook with sliding-stick is the best instrument for the purpose; but even with its aid he must wait until the fish is nearly spent, and must then draw near a low and shelving shore before he can venture to hook him under the gills. Most rivers, however, present these convenient spots at intervals, and the angler should play his fish until he reaches one, let the distance be what it may, if he wishes to run no unnecessary risk. In all cases when landed, the salmon should at once be knocked on the head, and the hook carefully removed with a penknife.

CHAPTER V.

THE CHIEF RIVERS OF GREAT BRITAIN, AND THE FISH FOUND IN THEM.

Sect. 1.—Salmon Rivers.

Salmon and Sea-Trout are found in all the four divisions of the three kingdoms, but chiefly in Scotland and Ireland. In Wales there are still some pretty good rivers; and in England they are taken in small numbers in the Wye, the Severn, and the Tamar. The two first of these are, however, partly Welsh; and either of them can be recommended as affording pretty good sport to the angler. The Wye is no doubt the best; the Severn is in progress to become a tolerably good river; but the Tamar is, I believe, becoming daily less and less frequented by this noble fish. For many years past a salmon taken with the fly in the Severn was a rarity, but lately the feat has been tolerably often witnessed, and hopes are held out of making it the head-quarters of the southern salmon-fishers.

In Wales, the Conway, the Usk, the Wye, the Dovey, and the Tivey are the salmon-haunts; and are preserved with great care for the lovers of the sport.

In Ireland, the Shannon is the chief seat of the sport, and affords perhaps more facilities than any other river in the British Isles. Next to it come the Moy and the Erne, the Ban and the Bush, together with the rivers Blackwater and Lee, and the numberless lakes of Killarney, Connemara, &c. Every year, however, these rivers are more cautiously reserved for netting, and the angler, without good introductions, has not the facilities which were formerly at his disposal.

In Scotland, the Tweed almost equals the Shannon in size and opportunities for sport. It however is so much fished as to be to a certain extent spoiled as a salmon river; and it is obliged to hide its naturally higher head before its more northerly rivals, the Shin, the Thurso, and the Esk. The Tay and its tributaries also are first-rate salmon rivers, 50,000 fish being taken on the average in each year by the net. The Findhorn comes next, but is more remarkable for trout than for salmon, which are not so plentiful in that river as they formerly were. The Clyde also has the same repute as a trouting river, but is not much frequented by the salmon. There are numberless smaller rivers throughout Scotland in which salmon are occasionally taken, and in which trout abound; but the above are, I believe, the principal seats of this exciting sport; yet as my experience of their qualities

is very limited, I cannot pretend to offer any observations on their comparative merits or demerits.

Sect. 2.—Common Trout and Grayling Rivers.

In Scotland, Ireland, and Wales every river swarms with trout in some shape or form varying from the fine, well-formed fish of the best rivers down to the small half-starved ones found in the small rivers which descend from the barren sides of the northern granite mountains. It is, however, quite useless to particularize those which afford the best sport, since their name is legion; and I shall pass on to the English scenes of the rod and fly. These are chiefly the following, commencing with those near London, and proceeding more and more in all directions:—The nearest trouting-river to the metropolis is now the Wandle, since the Thames near London has been almost extinguished as a haunt of this fish; the Colne is also close upon London, and both are well stocked with trout of middling-size, but they are strictly preserved, and good fishing is difficult to obtain, except by interest with the proprietors. Buckinghamshire and Oxfordshire afford the higher parts of the Thames, the Ouse, the Colne, and the Wick; Berkshire, Hampshire, and Wiltshire present the Kennet, the Lambourn, the Test, the Itchin, and the Avon; Dorsetshire and Devon are remarkable for the Frome, the Axe, the Charr, the Tamar, the Dart, the Ex, the Tyd, the Teign, and the Tarridge—all of them good trouting rivers; whilst the borders of Wales afford the Teme, the Wye, the Lugg, the Usk, the Froome, and some others remarkable for fine trout and grayling. Proceeding towards the north, we find good trouting-rivers in Derbyshire, Yorkshire, and the adjacent counties of Durham, Cumberland, Westmoreland, and Northumberland, where the Trent, the Erewash, the Dee, the Dove, the Derwent, the Ribble, the Swale, the Wharfe, the Tees, and the Wear employ numberless rods in each succeeding season. To these must be added, as part of the same district, the Coquet, the Tyne, the Aln, and the various lakes of Westmoreland, with their tributaries, all of which are full of fine trout, and may be expected to please the taste of the most fastidious angler, as well as to gratify the eye of the admirers of the beauties of nature.

Sect. 3.—Bottom-Fishing Rivers.

The Thames, the Lee, the Medway, and the New River, near London, the Kentish and Dorsetshire Stours, the Ouse, the Cam, the Humber, the Severn, the Warwickshire Avon, and the Isis, are the chief seats of bottom-fishing; together with the preserved artificial waters sprinkled throughout England in the ornamental grounds of our nobility and gentry. They are, however, so numerous that an extended list would occupy too great a space, and the limits which can be assigned to the present subject forbid my going further into the scenes of the angler's passion, which is so strongly developed in the votaries of the art as to be only described with propriety by that word. Those who desire more minute information upon this, as well as other points connected with the rod, I must refer to the practical works of Messrs. Stoddart, Blacker, Ephemera, and Salter, who, together, will enlighten him upon all the branches of the subject.

CHAPTER VI.

EXPENSES OF FISHING, AND LAWS RELATING TO INLAND FISHERIES.

Sect. 1.—Expenses of Fishing.

The chief expense of fishing is the tackle, which may be made to cost any sum from three pounds to almost any amount. The average cost, however, of a complete outfit will not be more than twenty pounds, if due economy is used in procuring fly-making materials. If, however, the angler is extravagant, he may easily spend from 50*l.* to 100*l.* in rods and tackle. Beyond this the expense is only in procuring tickets for fishing, and travelling expenses. The tickets vary from ten shillings to ten pounds per month, according to the nature of the sport and the locality.

Sect. 2.—Laws Relating to Inland Fisheries.

The Lord of a Manor having the soil on both sides of a river has the right to the fish; besides which, there are three kinds of right to fish:—1. Free Fishing, which is an exclusive right to fish in a public

river by royal franchise. 2. SEVERAL FISHING, giving an exclusive right to fish in the soil of another by grant from such owner, and 3. COMMON OF PISCARY, which is a liberty to fish with others in a river the soil of which belongs to another. Besides which, every one has a right to take fish found upon the sea-shore between high and low water mark. By the Act 24 & 25 Vict., c. 96, s. 24, the taking of fish in water situate in land belonging to a dwelling-house is a misdemeanour, and if such water is private property, or if there is a private right of fishing in it, the person taking fish in it shall, on conviction, pay such sum not exceeding five pounds, over and above the value of the fish, as the justice shall seem meet. But this does not apply to angling during the daytime. Tackle of fishers may be seized if offending against the provisions of this act.

Sec. 26.—Provides penalties for stealing oyster-broods.

By the Malicious Injuries Consolidation Act, 24 & 25 Vict., c. 97, the breaking down of the dam of a fishery, or POISONING FISH, is made punishable. There are also certain local acts affecting the Thames, Medway, Tweed, and other rivers which limit the size of mesh to be used, the size of fish which may legally be taken, and the close times when they may not be taken.

THE LAW AS TO SALMON FISHERIES was consolidated in 1861 by 24 & 25 Vict., c. 109, its sections being as follows:—

Sec. 1.—Title.

Sec. 2.—Application confined to England, and not to extend to the river Tweed.

Sec. 3.—Commencement of Act.

Sec. 4.—Definition of terms used.

Sec. 5—7.—Penalty for poisoning waters.

Sec. 8.—Penalty for fishing with lights, spears, &c.

Sec. 9.—Penalty for using roe as bait.

Sec. 10.—Prescribes net to be used.

Sec. 11.—Interdicts fixed engines.

Sec. 12.—Interdicts certain dams.

Sec. 13.—Penalty for not erecting gratings at mouths of artificial waters.

Sec. 14.—Taking unclean fish.

Sec. 15.—Taking salmon fry.

Sec. 16.—Disturbing spawning fish.

Sec. 17.—Fixing close time between Sep. 1 and Feb. 1, except that it shall be lawful to fish with rod between September 1 and November 1, under penalty not exceeding five pounds for each salmon caught.

Sec. 18.—Home office may extend or alter close time.

Sec. 19.—Penalty for selling fish during close time.

Sec. 20.—Fixed engines must be removed during close time.

Sec. 21.—Weekly close time ordered.

Sec. 22.—Free passage through traps must be left during weekly close time.

Sec. 23, 24.—Proprietors may make fish-passes to existing dams with consent of Home office, first giving notice.

Sec. 25.—All future dams to have fish-passes.

Sec. 26.—Defines the supply of water to fish passes.

Sec. 27.—Free gaps, and their mode of construction.

Sec. 28.—Orders free gaps in weirs.

Sec. 29.—Defines the boxes and cribs which may be put in fishing weirs and mill dams.

Sec. 30.—Spur walls in fishing weirs.

Sec. 31.—Home office to have the superintendence of fisheries.

Sec. 32.—Inspectors to report annually to Parliament.

Sec. 33.—Justices to appoint conservators.

Sec. 34.—Justices may grant search-warrant on suspicion.

Sec. 35.—Recovery of penalties.

Sec. 36.—Offenders on rivers between two counties may be tried in either.

Sec. 37.—Where offences on sea coast to be tried.

Sec. 38.—Permits dredging.

Sec. 39, and schedule repeal certain acts.

It was soon found necessary to amend this law, and in 1865 the Act 28 & 29 Vict., c. 121, was passed, the sections of which are as follows, independently of the preamble:—

Sec. 1.—Short title, showing that this Act, together with that of 1861, may be considered as the present law relating to salmon-fishery in England.

Sec. 2.—Construction of Act.

Sec. 3.—Definition of terms.

Sec. 4.—Power to justices to form districts.

Sec. 5.—Settles limits of fishery districts.

Sec. 6.—Appointment of conservators.

Sec. 7.—Committee of fishery district.

Sec. 8.—Application for joint committee.

Sec. 9.—Appointment of fishing committee.

Sec. 10.—Notice of ditto.

Sec. 11.—Proceedings of joint fishing committee.

Sec. 12.—Meeting of ditto.

Sec. 13.—Dissolution of ditto.

Sec. 14.—Ex-officio member of board.

Sec. 15.—Tenure of office by conservators.

Sec. 16.—Notice of appointment of conservators.
Sec. 17.—Cesser of power of ditto.
Sec. 18.—Rules as to objections and evidence.
Sec. 19.—Provision as to common estuary.
Sec. 20.—Alterations of fishing district.
Sec. 21 to 32.—Board of conservators and their officers.
Sec. 33 to 38.—As to Licences.
Sec. 39 to 44.—Fixed engines.
Sec. 45.—Appeal from decision of special commissioners.
Sec. 46 to 55.—Appointment, powers, &c. of commissioners.
Sec. 56.—When hard labour instead of penalty can be awarded.
Sec. 57.—Minimum penalties.
Sec. 58.—Forfeiture of nets, &c.
Sec. 59.—Limitation of time for compensation for fish-pass.
Sec. 60.—Consent of commissioners necessary for artificial propagation of salmon.
Sec. 61.—As to disqualification of justices.
Sec. 62.—Payment of penalties to conservators in certain cases.
Sec. 63.—River Esk included within limits of Act.
Sec. 64.—Partial application to trout in salmon rivers.
Sec. 65.—As to exportation.
Sec. 66.—Appeal to quarter sessions, schedules of licence duties, and forms of notice.

Scotch Salmon Laws.

The Acts now in force in Scotland for the preservation of salmon are 25 & 26 Vict., c. 97 (1862), annexed by 26 & 27 Vict., c. 30 (1863), and by 27 and 28 Vict., c. 118 (1864). The commissioners appointed under these acts have made certain bye-laws which must be studied by those who wish to know the exact local conditions of any river. They are given at length, as well as the whole law of English and Scotch salmon fisheries, in Baker's "Laws relating to Salmon Fisheries," published by H. Cox, 10, Wellington-street, Strand.

Irish Salmon Laws.

The Acts as to Irish fisheries are 5 & 6 Vict., c. 106; 11 & 12 Vict., c. 92; 13 & 14 Vict., c. 88; and 26 & 27 Vict., c. 114.

HORSE RACING—PREPARATORY CANTER OF THE TWO-YEAR OLD COLT. P. 311.

PART II.

BOOK I.—HORSE-RACING.

CHAPTER I.

GENERAL REMARKS ON HORSE-RACING.

THE SOLE OBJECT for which horse-racing was originally established, and has since been supported by the powers that be, is, confessedly, the encouragement of the breed of English horses. No one can contend with a semblance of reason that in any other view it is capable of standing its ground as a national sport; for it is certainly alloyed with numberless objectionable concomitants; and it requires a strong inducement to those who wish well to the morals of the people to counterbalance these disadvantages. But while wars are inevitable attendants upon our fallen nature, a well-mounted cavalry is essential to our existence as a nation; and unless a great encouragement is afforded to our horse-breeders, we shall speedily lose that pre-eminence in horse-flesh for which we have always been remarkable. It is quite true, that while the exportation of horses is allowed other nations participate in our advantageous position; but still, in case of a struggle near at home, that source of supply could be cut off, and we should neither export nor import them to any extent. But if it can be shown that a superior breed of horses is necessary or desirable for national defence as well as other purposes; if that breed is only likely to be maintained by extraordinary encouragement; and if racing alone keeps it up in any numbers, and in its pristine purity, then, until some substitute is discovered, every patriotic Briton must lend his aid to its progress, or at all events avoid opposing its proceedings. Nevertheless, undoubtedly he may at the same time oppose the fraudulent actions and even gross robberies which are too common on the turf, because there can be no real reason why the practice of running horses should be attended with more frauds or deceptions than exist in any other kind of competition. The causes of these attendant evils are plain enough, and it only rests with the public to encourage or remove them. This, however, is a subject which will be better considered as we go on in the examination of the details of horse-racing, and the only thing now necessary is to be thoroughly satisfied that the existence of our superior breed of horses depends upon the maintenance of the sport of horse-racing, leaving its purgation to a future time. In order, however, to enter fully into this question, two points must be assumed, which will be found fully supported by argument as we proceed. These are, first—that the high-bred horse is comparatively useless for any other purposes but racing, hunting, and the production of half-bred stock; and the breed would consequently soon dwindle down into very limited numbers if the only present inducement were taken away; secondly, that speed and stoutness can only be tested by competition, which must take the form of racing in some shape; for without this trial the horse-breeder could form no opinion as to the goodness of the stock from which to make his selection, because the external form is not sufficient for him, as every breeder knows, and with that guide alone he would be constantly liable to produce a showy but useless brute. If these two points are proved, it follows that racing in some shape must be maintained; and that it should be encouraged by the offer of Royal plates and other means, in order to tempt the wealthy and the noble of the land to devote their opportunities to produce this stock in the highest state of perfection and purity.

INTRODUCTION OF HANDICAPS.—The bad tendencies of racing are now so firmly connected with its practice, that no means short of a strong legislative enactment will, I am afraid, cope with them effectually. The cause of the evil is plain enough; but the remedy is not so easy, without at once cutting away almost the entire system upon which the sport is now conducted. This I will now endeavour to explain in as few words as possible. Until within the last forty years all races were run under weights fixed according to the age or height of the horses competing in them; but at that time it was found that by

means of caravans and, since then, by railroads, a few good horses swept everything before them, and consequently there was great difficulty in making up sufficient sport for the spectators, or in affording good stakes even for good horses; for when it was known that a superior horse was likely to make his appearance at a race-meeting, no other entries were effected, and the result was a "walk-over," or sometimes, when no public money was added, not even that. In order, therefore, to meet these difficulties, various race-committees decided upon adopting the system of handicaps, which were known long before that time, but only occasionally resorted to. The nature of this device is such as to offer a constant premium to fraud and deception; for without these a horse has little chance of winning a handicap, if he were to run every month, from March to September. The reason is obvious enough, because it is only by deceiving the handicapper that the winning horse is weighted below his real powers, and thus enabled to win. To the uninitiated it is perhaps necessary to explain, that the handicap-race is one which is offered to horses of every description, each of whose owners enters his horse by paying a certain sum, after which the handicapper fixes such a weight upon all as to bring them to a level at the winning-post; the owner after this having the option of forfeiting his stake, or of adding to it an additional sum. Thus it will appear, that if the theory could be carried out to perfection, all the horses engaged would come in abreast; but in practice it is liable to error, because the handicapper, in order to form his opinion of their powers, is guided by their previous running in public, and therefore it becomes the object of the proprietor of a horse which is intended to run in a handicap of importance, to run him in previous races expressly to lose, or, in the language of the turf, "to get the weight off." Hence all those engaged in these devices are constantly attempting to deceive the handicappers into the belief that their horses are worse than they really are, and sometimes a horse is run for a whole season, or even more than one, in various stakes, without allowing him to win, and all in order "to get the weight off" against some grand *coup*. In former days this would have been considered highly dishonourable, and such an act has more than once been visited by the displeasure of the Jockey Club, even where the order to "pull the strings" has been given from a less unworthy motive; but now-a-days the act is so common, that the owner of a "badly-managed horse" earns the contempt of the whole "ring." Nor can this occasion surprise, when it is remembered that the very conditions of the race are a standing temptation to dishonour. Man is sufficiently prone to vice without extra stimulus, but to afford more than his nature prompts him to is the height of absurdity and folly. So fully is this malpractice recognised on the turf, that it has become quite a proverb, "that a bad horse well managed is better than a good horse badly managed;" and that he brings in more money is clear enough. Hence, if money is the great object of the racing-man, as is unfortunately too much the case, the above proverb is quite applicable, and the inferior horse is often much more profitable to his owner than his vastly-better companion of the same year. Many instances could be adduced in which horses have been engaged for a whole season, in their third or fourth year, solely to get them "well in" for the next year's spring-handicaps, which they have swept away in consequence with the greatest ease; but the facts are so notorious that it is quite unnecessary to dilate farther upon them. Suffice it to observe, that it is universally admitted by all who are in the secrets of the turf, that horses are constantly entered and run solely with the view of inducing the handicapper to "weight" them at a low scale; until at last the practice has become so notorious that its object is almost defeated, since as all, or nearly all, are alike engaged in the same game, the handicapper is obliged to resort to other modes of ascertaining the relative merits of the horses, and is not always guided by the place which a horse occupies as to the weight which he shall give him. But this is the exception to the rule, which is still made to be dependent on public running; and though in some flagrant cases horses may be crushed out of the field by the weight given them, yet in the majority of instances, by patience and ordinary cunning, or *prudence*, as it is called, the handicapper is at last induced to accord such a low weight as will ensure the coveted success, barring all the accidents incidental to training. It may be urged in favour of these races, that they afford some encouragement to breeders, because if the result of their time and trouble is not first-rate, he may still in a handicap obtain a good prize; but the worst of the business is, that success here is not made to depend upon the relative goodness of the horses, but on the relative

badness of those who manage them. Nothing would be more easy than to give encouragement to second or third-rate horses, by offering stakes open to those which have never won more than a certain sum; and this used to be the practice at small meetings; but though it encouraged the horse-breeder, it did not suit the purposes of the "book-maker," who requires a larger field of horses, in order to give him an opportunity of "betting round;" nor of the race-committee, who wish the same thing, in order to draw company to their meetings. Hence arises the extraordinary success of handicaps, as they suit the purposes of so many parties, viz., the betting fraternity, the owners of inferior horses, and the race-committees, and are only prejudicial to man as regards his morals, and to the horse, in reference to his powers of carrying weight. If the breeds of horses were dependent upon these races alone for encouragement, they would rapidly deteriorate, and the speedy, flashy animal calculated to carry six stone, would be the *summum bonum* of the breeder's views.

THE DERBY, OAKS, AND ST. LEGER have, however, been fortunately preserved; and have been the means of avoiding the evil tendencies of the handicaps as regards the horse, though, unhappily, they are almost as much prostituted to the purposes of the ring as their modern competitors for public honours. These great races are real tests of the merits of the horse, and many noblemen and gentlemen of unblemished honour have succeeded in winning them; indeed, in their annals, the success of a horse belonging to "a book-maker" is a rare event. Their great defect is that they are too much dependent upon the fluctuations of the "betting-ring," and that when the money invested by the public is so enormous, the temptations to fraud, in some shape, are enough to ensure its frequent perpetration. To be straightforward and candid in avowing the powers of a superior animal would be enough to ensure his downfall in most cases, and hence the necessity for all the secrecy which is practised or attempted in the racing stable. No sooner is a Derby horse at short odds than he is the mark for numberless "touts," who would be too ready to destroy his health or legs if they could obtain an opportunity. This has often happened, and in the case of a good favourite, the fear of its recurrence necessitates constant vigilance and the supervision of an Argus. It is true that some do pass the ordeal, but others very frequently succumb; and the safest plan is undoubtedly to keep the public in the dark as to a horse's qualifications, if possible.

EVIL TENDENCIES OF BETTING. — As already remarked, these races are often taken advantage of by the betting man to make money, and horses are entered and made favourites solely for the purpose of laying against them, and thus making sure of a large sum of money—not so great, it is true, as that which could be landed by success, but still sufficient to ensure a paying return. In some cases two or three horses are entered by the same party, one of which is "meant" to run, and is kept back in the betting, whilst the others are never intended to win, but are used solely as a means of ensuring such a sum as shall pay all expenses, and perhaps a little more, in case of the failure of the one intended to win. All this chicanery is no doubt very bad, but it is not necessarily attendant upon racing, and is not, as in the handicap, encouraged by the very terms of the race. Wherever betting is practised to any extent, there is sure to be some kind of overreaching, whether on the stock-exchange, in the gambling-house, at the hop-markets, or on the turf; but this has nothing to do with the events upon which those bets are made. It might as well be alleged that the growth of hops is immoral because they are made the groundwork of incessant gambling, as that horse-racing has that tendency. No doubt both are attended with evil; and if hops and horses could be dispensed with, perhaps there might be some little difficulty in supplying their places with equally uncertain and fluctuating materials; but while straw can be drawn out of a rick, or maggots can be raced over a plate, bets will be laid to any amount which will suit the ideas of the by-standers; and even the total destruction of horses and hops would fail in rooting out this propensity to gamble.

THE REFORM OF THE TURF is now become a necessity of the age; and its destruction is so far from being desirable, that it may be shown that it would be highly prejudicial, and therefore whilst its continuance in some shape is to be supported, the only thing to be done is to ensure its purgation from those vices which now sully its reputation. Betting *must* be left to take its chance; no legislative enactment can prevent men from staking money in support of their opinions, and it only becomes a question how far it is desirable to enforce the performance of the contract in a court of law. The constant "milkings" and "scratchings" of favourites have made

backers so cautious, that the books which formerly were opened many weeks before every event of the slightest importance, now seldom contain a single bet pencilled until the numbers are exhibited on the telegraph board, and this is always the course which prudence will dictate. But while the betting-man may be suffered to take his chance, there can be no reason why racing should not be raised from the low ebb to which it is now reduced. The task is a difficult one, and I am not sanguine enough to suppose that it can be effected by the efforts of any individual; still, time will work the cure, for there must be an end to such a rotten system as that which is now pursued. Whenever it is found that frauds fail in their object they will cease to be attempted; and when all are engaged in the same unworthy mode of deceit, the end must be that they will all alike fail, and thus the evil will work its own cure. If by any means, handicaps, those unworthy features of the ordinary race-card, could be eradicated, a great blow would be levelled at the betting fraternity, who exist in great measure upon the pickings derived from them. But three great betting-races a-year would not suffice for their capacious maws; the loss of the handicaps would be too severely felt, and therefore, though I do not advocate their cessation, in order to purge the "ring," yet this effect would by no means be disagreeable to me or prejudicial to the interests of the racing world. Nothing can exceed the beauty of the horses engaged, and no scene can be imagined more exciting than a well-managed race-course with a large field of high-bred horses; but the adventitious incubus of the betting-ring is certainly not to my taste, though I have no quarrel with it, believing it to be a necessary evil, and a safety-valve for the exuberance of loaded purses, and the high health of youth and inexperience. Let the management of the public races be under some general board of control, appointed by the Secretary of State for the Home Department, and let all premiums to fraud be done away with as far as possible, and then the full benefits of the system may be expected, without the dreadful alloy now incorporated in its very essence. The Jockey Club has certainly done something, but its members are too much concerned in betting transactions themselves to carry the reform far enough, and I fear little real good is to be expected from them. Gross cases have been visited by condign punishment, but this is the more unfortunate when it is notorious that half the members of the Jockey Club allow their trainers to run their horses expressly "to get the weight off." Race-committees are spread so widely over the whole land, and compete so constantly with one another, that it is not to be expected that they shall reform themselves; but if they were obliged to submit their programmes to a responsible public officer, and if certain rules were drawn up for their guidance, they would be compelled to abide by his decisions, and conform to his regulations. All proved acts of fraud, such as "running horses to lose," &c., &c., should be punishable either by exclusion from the course or by heavy penalty; and though they could not be prevented entirely, they would to a great extent be diminished in frequency and importance. No one now can be punished for betting against his own horse with the full intention of robbing the public, but some law to that effect ought, if possible, to be framed which should stamp the act with infamy, even if it did not entirely prevent it. Such must be the course which will be forced upon the legislature sooner or later, if the turf is to be restored to the condition of utility, as a means of keeping up the breed of horses, which it formerly enjoyed. How soon it may be carried out will of course depend upon circumstances which are yet enveloped in the future.

RACING IS DIVIDED into Flat-racing, Hurdle-racing and Steeple-chasing, Riding to Hounds, and Match-trotting. The first division of these is now practised all over the three kingdoms. The second is also common enough, and is sometimes mixed up with flat-racing at the summer meetings; but it belongs more to the division of steeple-chasing than to flat-racing, as they both require the horse to be able and willing to jump over the obstacles placed in his way. Riding to hounds is now a complete race, and may well be classed with other forms of racing, though not attended with any formal prize; still its votaries compete with each other as ardently as the jockeys on the race-course, and the pursuit of fox-hunting is in many countries more often a daily steeple-chase, than the prosecution of the sport called fox-hunting. Match-trotting is now almost exploded; but as it still is occasionally practised, some account must be given of the mode of conducting it in England.

THE HORSES EMPLOYED in these various kinds of races are—first, the thorough-bred horse, which is now almost the only horse used on the flat; secondly, the half-bred, or cocktail, which is generally about fifteen-sixteenths of the blood of the pure thorough-

bred horse, and is used as a hurdle-racer, steeple-chaser, or hunter. Many of these last are quite thorough-bred; but the most successful steeple-chasers have generally had some stain in their pedigrees, though not more than one-sixteenth, or even one thirty-second part. Hunters and trotters are more frequently about seven-eighths of pure blood, but many of them have even less of that valuable article, and some, again, are quite thorough-bred. The subject, however, will be found hereafter more fully entered into under the several heads of the Race-horse, the Steeple-chaser, and Hurdle-racer, the Weight-carrying Hunter, and the Match-trotter.

CHAPTER II.

THE THOROUGH-BRED RACEHORSE.

Sect. 1.—Definition of the Thorough-bred Horse.

This is not quite so simple as is generally supposed, for though the thorough-bred horse is said to be of pure Eastern blood, this is not really the case when traced back to the earliest times of which we have any account. In the pedigree of Eclipse there are the names of no less than thirteen mares of unknown breed; and the same amount of impure blood, or nearly so, will be found in every horse of his date—that is to say, if they are as far removed from the primary roots of all our best stocks. Hence, this definition will not suffice, since it is clearly not applicable to a horse whose blood runs in almost every breed of the present day; and not only to him, but to others as well. The only criterion, therefore, which will hold good as a definition, is the appearance in the "stud book," where every horse and mare considered thorough-bred is registered; and, by common consent, this is accepted as the test of pure breeding. All horses, therefore, which are the produce of mares therein described, and by horses also to be found in its pages, are called thorough-bred; and all others are commonly designated as half-bred, whether composed of half pure blood, or three-quarters, or seven-eighths, or any other proportion. Many of our half-bred stallions are very nearly pure, but nothing can now wash out the stain which formerly was considered easily eradicated by a few crosses of Eastern blood.

Sect. 2.—Origin of the Thorough-bred Horse.

We are indebted to the Stuarts for the first great improvement made in the breed of our horses, James I. and Charles I. having introduced the Arabian blood, and Charles II. laying the foundation of our present breeds by importing four mares (called Royal Mares, from their master), to which may be traced the celebrated horses of the latter end of the last century, and some of our best modern breeds. Several Eastern horses were also imported at various times, as, the Stradling or Lister Turk, sire of Snake; the D'Arcy White and Yellow Turks; the Acaster Turk; the Alcock Arabian; the Curwen Bay Barb; the Thoulouse Barb; Honeywood's White Arabian; the Cullen Arabian; Old Greyhound, foaled in England but got in Barbary; the Damascus Arabian; the Helmsley, Belgrade, Selaby, and Strickland Turks; the Oglethorpe and Lonsdale Bay Arabians; Wilson's Chestnut and the Newcomb Bay Arabians; the Coomb Arabian; the Hampton Court Litten Arabian; Cole's and Tarran's Barbs; Lord Oxford's Bloody-shouldered Arabian; Place's White Turk; Bethell's Arabian; the Holderness Turk; Compton's Barb, afterwards called the Sedley Grey Arabian; the Northumberland, Golden Bell's, and the Saanah Arabians; Hutton's Bay Barb; Newton's Grey and Bay Arabians; Panton's Arab, and several Arab mares, among others Admiral Keppel's; Wynn's Arabian, and Lord Fairfax's Morocco Barb.

But the Chief Roots of our best horses may be considered the three following Eastern Horses:—First, the Byerley Turk, of whom nothing more is known than that he was Captain Byerley's charger in Ireland, in 1689; secondly, the Darley Arabian, imported by Mr. Darley of Yorkshire very early in the eighteenth century, supposed about 1712; and the Godolphin Arabian, or Barb, imported a few years later, and first used as a sire in 1731, in consequence of the failure of Hobgoblin, to whom he acted in the ignoble capacity of teazer. From these three last mentioned horses are derived all our best breeds, in whose pedi-

grees their names will invariably be found mixed up with more or less of the descendants of the other Eastern horses and mares given in the previous list. In examining our pedigree-tables it is usual to trace the descent chiefly through the male line, and hence various horses are considered to be descendants of one or other of these three horses, when they really own more of the blood of one or both of the two others. Thus Eclipse is generally said to be a descendant of the Darley Arabian—and so he was—being a son of Marske, who was son of Squirt, who was a grandson of the Darley Arab, through Bartlett's Childers; but then Eclipse was out of Spilletta, who was by Regulus, son of Godolphin, and consequently he was composed of one-eighth Godolphin and one-sixteenth Darley Arabian blood. It has been contended by some writers on the horse, and among others by Mr. Hanckey Smith, that we owe more to the previous breeds for the goodness of the two Childers and their stock than to the Darley Arabian; but this I cannot help thinking is a fallacy, and for the following reasons. It will be seen, by a reference to the pedigree-tables, that the blood of the Darley Arabian, together with that of the Byerley Turk and the Godolphin Arabian, is met with ten times as often as that of any other, whether a Royal Mare or Lister Turk, which come next perhaps to these successful sires in point of frequency. Now, if the goodness of Eclipse were owing to the Lister Turk and Hautboy crosses in his pedigree, how comes it that in subsequent breeding we do not find this blood predominate in our first-rate horses? If, however, on the contrary, we find all our best stock absolutely deluged with the Godolphin, Byerley Turk, and Darley Arabian, to the exclusion almost of any but scattered fragments derived from the various names I have given above, we are compelled to assign the chief honours to these three; and it only becomes a question whether, though they were originally the cause of the goodness, they may not now by long perseverance require a little fresh importation of new blood. But that they are the great guns of the pedigree lists an examination will readily show. In the present day, however, it is scarcely desirable in theory, and it is wholly impossible in practice, to separate these roots, and to value them in comparison with one another—inasmuch as the present generation of horses is so much removed from the age in which they lived. Few of our present horses are within seven removes from Godolphin; and Cotherstone and his sister Mowerina were, I believe, the only horses of any note who rank him as an ancestor in the sixth remove. The distance from the Darley Arabian and Byerley Turk is still greater, though in some cases not more than two removes further off. For the sake of convenience, therefore, I shall give a list of the most prominent horses and mares removed from our present horses about six or seven degrees, with a description of their pedigrees and peculiarities; and then trace up our present horses to them, so as to ascertain the relative value of these elements, and the propriety of going back to them or avoiding them respectively in making the selection of breeding-stock. Nothing is so difficult as to make this calculation without having the full pedigree before the eye, because it is impossible to grasp all its details by a reference to the usual mode of giving it in the stud-book. But from a more careful investigation it will, I think, result that certain horses and mares removed only to this extent are highly to be prized, while others are gradually becoming extinct; and according as the former predominate, or are absent, will the strain be valuable or worthless.

SECT. 3.—LIST OF HORSES AND MARES FROM WHICH OUR BREEDS ARE CHIEFLY DERIVED.

A LIST OF HORSES AND MARES removed six or seven times from our present horses—that is, about 100 years, will be valuable to the breeder, inasmuch as it will enable him to comprehend at once the annexed tables of our present most distinguished horses and mares. At the head of this list I shall place the following celebrated sire.

HEROD, or, as he was formerly called, King Herod, was foaled in 1758, and was bred by the Duke of Cumberland, and sold to Sir John Moore, in whose hands he was a great performer on the race-course, though not always victorious like his son Highflyer, or those renowned runners, Childers and Eclipse. He was a very fine horse in appearance, with great speed and power; but his fame now rests upon his stock, which in the first generation produced 497 winners, and realised more than 200,000*l.* By a reference to his pedigree, given in table 2, it will be seen that he was bred almost entirely from Eastern blood, but with several flaws nevertheless, any one of which in the present day would vitiate a pedigree. He is usually considered as a representative of the Byerley Turk, but is really more of the Darley Arabian by one-half, one sixteenth of his blood

belonging to the former horse; and three-thirty seconds to the latter. This is caused by the fact that Herod had one infusion of the former and two of the latter. Flying Childers appears as his maternal great-grandfather; and to him, I suspect, is due the merit which Herod must always claim, of being the most valuable ingredient in the composition of our present breeds of horses. In examining the pedigree-tables, he is met with more commonly than any horse of his time; and I think I shall be able to show as a rule (liable of course to exceptions), that according to the amount of his blood in the pedigree is the value of the animal as a racehorse. Spanker forms not quite one-sixteenth of Herod, which proportion is made up by combining the three more remote strains into one. Bethel's Arab also lays claim to a chief share, since he forms an entire eight of Herod; but as he has not much reputation derived from other sources, it can scarcely be considered that the goodness of Herod is derived from him.

MATCHEM will come next in importance, as in point of time, in which respect, indeed, he ought to take precedence of Herod, having been foaled in 1748; but as I believe he does not prevail quite to the same extent in the pedigrees of our horses, I have lowered him beneath the above celebrated horse. Although in the male line he is the only representative of Godolphin of his time, yet he shares the honour of transmitting the blood through the female side with Miss Ramsden, Molly Longlegs, Rachel, Lisette, Folly, &c., &c., the last being by Blank, son of Godolphin, out of a daughter (sister to Regulus). The pedigree of Matchem is given in table 1, which will show his composition as derived in great measure from Godolphin, and as exhibiting very few flaws. St. Victor's Barb, Acaster Turk, the Byerley Turk, and the Oglethorpe Arabian, each make one-sixteenth, which proportion Curwen's Barb also takes, with an additional small share through Crab. Spanker again appears in this pedigree, but in a smaller degree than in that of Herod. Matchem was a very good racehorse, and was nearly always victorious; as a stallion, he does not come up to Herod, but he was the sire of 354 winners, whose joint winnings amounted to more than 150,000*l.*

ECLIPSE, the pride and boast of the race-course, is usually ranged among the descendants of the Darley Arabian, of whom he is the only representative in the male line who can be traced in the same way to our present breeds; but by examining his pedigree (table 4), it will appear that he has twice as much of the blood of Godolphin as that of the Darley Arabian, the former composing one-eighth, the latter one-sixteenth part. Besides these, we find the Lister Turk making up nearly an eighth part, the D'Arcy White Turk rather more than one-sixteenth, and the Royal Mares the same proportion. He was bred, like Herod, by the Duke of Cumberland, and sold at his death to Mr. Wildman, who resold him to Mr. Kelly, by whom he was run at five years old, with the extraordinary results which are known to every one familiar with the annals of the turf. He was never beaten, and won eleven King's Plates, besides other stakes. In shape, he was very long and low before, and his temper was so bad as to occasion great difficulty in riding him. His winning produce, both in numbers of horses and value of winnings, was very nearly the same as that of Matchem — being winners, 344; value, 158,000*l.*

RACHEL, FOLLY, MISS RAMSDEN, PRINCIPESSA, LISETTE, AND MOLLY LONGLEGS, were all grand-daughters of the Godolphin Arabian, and most of our best horses exhibit one or more of their names in their pedigrees, some of them indeed combining nearly all of them together. Their pedigrees are given in full in the following tables; where also will be found those of Snap, Bay Bolton, Gipsey, Babraham, and the Large and Little Hartley Mares; also, Cole's Foxhunter, Young Belgrade, Giantess, Soreheels, and Careless; all names constantly occurring in the sixth or seventh remove from our present horses. The first table exhibits among Matchem's ancestors—Partner, Sister to Mixbury, the Bald Galloway, Crab, Basto, and Spanker; in the second table are given with that of Herod the pedigrees of Blaze, Childers, Fox, and Merlin; and lastly, in Eclipse's table are given those of Spilletta, Regulus, Mother Western, Snake, and Hautboy.

TRENTHAM, bred by Sir John Moore, in 1766, was sold to Sir John Ogilvie, and realised in stakes more than 8000 guineas, an enormous sum in those days. He was afterwards used for stud purposes by Lord Egremont, and appears in the pedigrees of Melbourne, Lancercost, Alarm, &c., as the sire of Camilla (1778), who was out of Coquette (1764), a mare bred by Lord Bolingbroke, and got by the Compton Barb, out of Sister to Regulus (see table 47).

SYPHON, foaled in 1750, combines several strains of old blood through Squirt, son of

the Darley Arabian, Bay Bolton, son of Grey Hautboy, twice—and Sister to Mixbury, daughter of Curwen's Barb. His pedigree is in table 6.

CRAB, son of the Alcock Arabian, and of a sister to Soreheels, will be found to transmit this blood to several of our best stocks; he is not, however represented in the male line by any of our present horses.

CHILDERS, better known as "Flying Childers," is not represented in the male line, but his blood prevails very extensively through Lisette, Elfrida, Hyena, Curiosity, Papillon, and Promise, all of them daughters of Snap, his grandson. Their names are constantly found in the fifth or sixth remove from the present day, in company with that of Herod, also a great-grandson, of Childers, as already remarked in page 316. His career on the turf was a very remarkable one, even in those days when comparatively little use was made of a first-rate horse. He was never beaten, and is said to have carried nine stone two pounds over the Round Course at Newmarket (three miles four furlongs ninety-three yards) in six minutes forty seconds; which is as nearly as possible fourteen seconds a furlong, the highest rate at which the Derby course has ever been covered in these days, with a stone less weight, and not half the distance. But as I shall hereafter show this has been surpassed by West Australian and Kingston, at a later period of their development—viz., when four and five years old respectively.

SPORTSMISTRESS, foaled in 1765, will always be remarkable as the dam of Pot 8 os, by Eclipse. She was a great-grand-daughter of Godolphin, and thus gave her produce a fresh infusion of that blood already predominating in Eclipse. Besides Godolphin, she was largely imbued with the blood of Crab, who was an ancestor of Cade (her grandfather, and also grandsire on both the dam's and sire's side of Goldenlocks, her dam). Thus Sportsmistress was much in-bred with Crab, and by her union with Eclipse hit with the blood of Godolphin, and also with that of Crab, which appears in the Bald Galloway, in Cade, and Eclipse, and twice over in the pedigree of Sportsmistress. Besides Pot 8 os, who was her first foal, she produced ten others, but none of any great value (see pedigree table 40).

BRUNETTE, the dam of Trumpator, Cantator, Pipator, &c., was foaled in 1771. She combines the blood of the Godolphin Arabian with that of the Byerley Turk, the Darley Arab, Bloody Buttocks, Greyhound, Ancaster Starling, and the Newton Bay Barb; she was not much in-bred (pedigree table 42).

RACHEL, foaled in 1763, by Blank, son of Godolphin, and out of a grand-daughter of the same horse, is remarkable as being the dam of Highflyer by Herod, and Mark Anthony by Spectator. In the first case there was a very close in-breeding to Godolphin, and an out-cross into the Herod blood, producing the invincible Highflyer; and in the other case a continuation to some extent of the in-breeding produced an inferior horse to Highflyer, but one far above the average. Here the blood of Soreheels was in both sire and dam.

The celebrated PRUNELLA must not pass unnoticed, as the dam of two of the most celebrated brood-mares which ever lived—viz., Penelope, by Trumpator, dam of Whalebone, Whisker, Woful, Web, and Wire; and Parasol, by Pot 8 os, dam of Partisan. It will be seen that she received a second infusion of the blood of Childers from her dam through Snip, her sire being, through Herod, descended also from that celebrated horse by the collateral line of Cypron, daughter of Blaze, another of his sons. Like most of the best mares of her day, she inherited blood from each of the three great eastern sires, the preponderance, as usual, being in favour of the Godolphin Arabian.

The most extraordinary brood-mare in the whole stud-book is the Alexander Mare, whose pedigree is given in the 75th table of this book. She was dam of three first-rate stallions, viz., Castrel, Selim, and Rubens, whose blood is now justly considered to be of the very highest *caste*; Castrel being now represented by Pantaloon, Selim by Bay Middleton, Flying Dutchman, Cowl, Pyrrhus the 1st, and a whole host of celebrities; while Rubens, though extinct in the male line, is yet maintained in reputation from the value of the breeding stock left by Defence, who was a grandson on the dam's side of the above horse. In this way most of our present fashionable horses trace back to this mare.

SECT. 4.—SERIES OF TABLES OF PEDIGREES.

The following series of tables contains the pedigrees of our present most remarkable horses, traced up to the highest point which is given in the stud-book. Each will be found generally divided into two or more sections, in order to avoid the endless repetitions which would otherwise occur; but as a reference is given in all cases to those tables where the full pedigree is made out, it will generally be easy to follow

out the investigation by turning to the table indicated by the figure. Most of our modern horses are derived from about two dozen mares, generally closely related to one another; and thus, by giving the pedigrees of those mares once, it is unnecessary to repeat them so constantly as would be required if each pedigree were made out at full length up to its root. The great point in examining a pedigree is to have all the recent ramifications presented to the eye at once, so as to grasp all its bearings at a glance, and thus estimate the relative importance of the various elements composing it. For instance, in examining the pedigree of Bay Middleton, we should be told that he was by Sultan, out of Cobweb, by Phantom, and then perhaps the investigation would cease in an ordinary way; but by turning to the table giving his pedigree with that of his son Andover, it will appear that he is descended from the same blood as many others of our best horses—as, for instance, Williamson's Ditto, Julia, sister to Cressida (dam of Priam), Web, sister to Whalebone, &c., &c.; and thus we should not only attain some knowledge of his own elements, but also arrive at certain conclusions as to his fitness to combine with other strains of blood. The same will apply to every table here published, but it would lead to an endless discussion if I were to go into all the remarkable features exhibited in them. Suffice it to say, that they show at a glance, in each case, the strains from which all our most successful modern horses are derived, and enable the breeder to make his selection with the fullest chance of not overlooking any horse remarkably well suited to his purpose.

In comparing these tables some names meet the eye continually—as, for instance, Eclipse and his sons Alexander, Pot 8 os, Joe Andrews, Saltram, Dungannon, Mercury, and King Fergus; and Herod and his son Highflyer; Matchem also is constantly met with, but not so frequently as Herod, Highflyer, and Eclipse. The value of these names is such, that I believe the goodness of a particular strain may generally be estimated by the amount of Herod or Eclipse blood in the pedigree, especially that of the former. Highflyer, combining the blood of Herod with that of the Godolphin Arabian, is also particularly valuable as a progenitor, and, perhaps, even more so than Herod when derived through other sources; but taken as a whole, whether coming to us through him, or through Maria, the dam of Waxy, or through other sources, I believe that it may generally be assumed, as a rule, that in proportion to the amount of Herod blood found in the sixty-four progenitors of any horse in the sixth remove, will be his value as a racer; and when this amount is large, with the addition of a liberal allowance of Godolphin blood, and that of the Darley Arabian through Bartlet's Childers and Eclipse, the combination is of that quality that it cannot be excelled. Let the investigator into the *arcana* of the breeding stud calculate and compare for himself these elements, as contained in the annexed tables, and I think he cannot fail to come to the same conclusion. But independently of the value of these tables in giving an idea of the various combinations of strains composing each pedigree, they are also of great use in leading to an estimate of the propriety or otherwise of in-breeding. Without such a guide as is here afforded, it is impossible to guess even at the curious relationships which exist between the ancestors of our present horses of note. Wherever the full table is given, if the eye is cast down the several columns, the chances are that the same name occurs again and again, and in this way the conclusion is forced upon us, that in-breeding to some extent has been always adopted, and almost of necessity, because every horse of note is now derived from the same sources, though often variously mixed, and sometimes kept in a distinct strain for several generations. All these points, however, should be carefully studied, and hereafter will be again alluded to in entering upon the subject of breeding, and the laws which regulate that mysterious yet interesting occupation:—

TABLES OF PEDIGREES OF THOROUGH-BRED HORSES.

(1) MATCHEM (1748).

- MATCHEM
  - Cade (1734)
    - Godolphin Arab (1734)
    - Daughter of
      - Roxana (1718)
        - Bald Galloway
          - St. Victor's Barb
          - Daughter of
            - Why Not
            - Royal Mare
        - Sister to Chanter
          - Acaster Turk
          - ——
      - Daughter of
        - Partner (1716)
          - Jig
            - Byerley Turk (1689)
            - Daughter to
              - Spanker
              - ——
          - Sister to Mixbury
            - Curwen's Bay Barb
            - Daughter of
              - Old Spot by Selaby Turk
              - Daughter of White-legged Lowther Barb, out of Vintnor Mare
        - Daughter of Makeless
          - Oglethorpe Arab
          - Trumpet's Dam
      - Daughter of
        - Brimmer
          - D'Arcy's Yellow Turk
          - Royal Mare
        - Daughter of
          - Place's White Turk, by Dodsworth Barb
          - Daughter of Layton's Violet Barb Mare

Crab
- Alcock's Arab
- Sister to Sore-heels
  - Basto
    - Byerley Turk
    - Bay Peg, 2
  - Sister to Mixbury
- Daughter of
  - Fox, 2
  - Gipsey, by Bay Bolton, 31

D'Arcy's Yellow Tk.
- Daughter of
  - Morocco Barb
  - Old Bald Peg Arab

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(2) HEROD (1758).

- HEROD
  - Tartar (1743)
    - Partner, 1 (1716)
    - Meliora (1729)
      - Fox (1714)
        - Clumsy—Hautboy, by White D'Arcy Turk, out of Royal Mare
        - Bay Peg
          - Leedes Arab
          - Y. Bald Peg
            - Leedes Arab
            - Old Morocco Mare, 1
      - Milkmaid
        - Snail
        - Shield's Galloway
  - Cyprus (1750)
    - Blaze (1773)
      - Childers (1715)
        - Darley Arab
        - Betty Leedes
          - Careless
            - Spanker, 1
            - A Barb Mare
          - Sister to Leedes
            - Leedes Arab
            - Dr. of
              - Spanker, 1
              - Spanker's Dam, 1
      - Confederate Filly
        - Grey Grantham, by Brownlow Turk
        - Dr. of Rutland bk. Barb, out of Bright's Roan
    - Selima
      - Bethel's Arab
      - Dr. of
        - Graham's Champion
          - Harper's Arab
          - Dr. of Hautboy (see above)
        - Daughter of
          - Darley Arabian
          - Dr. of Merlin

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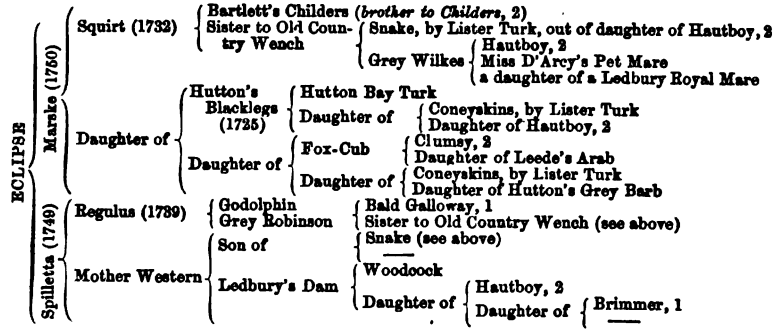
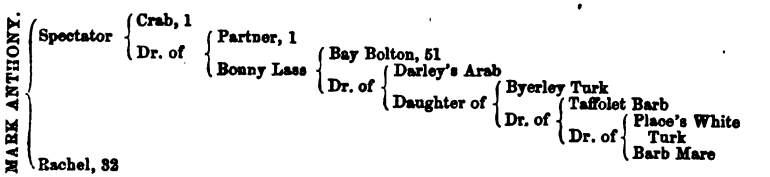
(3) RANTHOS (1763)—*brother to Maiden* (1770).

- RANTHOS
  - Matchem, 1
  - Dido's Dam (1750)
    - Squirt, 4
    - Lot's Dam
      - Mogul (*brother to Babraham*)
      - Camilla (1722)
        - Bay Bolton, 31
        - Old Lady
          - Pullen's Chesnut Arab
          - Dr. of
            - Rookwood
            - Dr. of Bustler

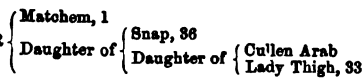
(4) ECLIPSE (1764).



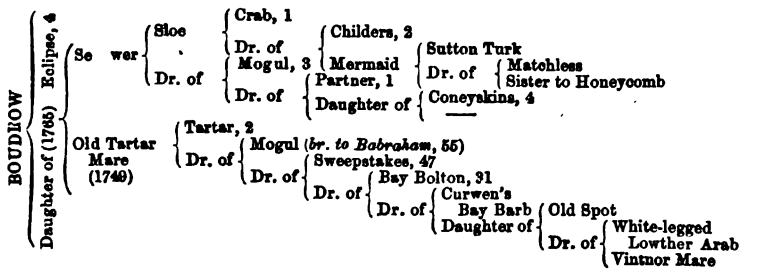
(5) MARK ANTHONY (1767).



(6) CONDUCTOR (1767).



(7) BOUDROW (1777).



(8) MERCURY (1778) AND VOLUNTEER (1780).

MERCURY (*brother to Volunteer*) { Eclipse, 4 / Old Tartar Mare, 7

(9) DIOMED (1777).

DIOMED { Florisel { Herod, 2 / Daughter of { Cygnet { Godolphin / Sister to Blossom { Crab, 1 / Daughter of { Childers, 2 / Miss Belvoir (see below)
Sister to Juno (1763) { Spectator, 5 / Daughter of { Blank, 32 / Dr. of { Childers, 2 / Miss Belvoir { Grey Grantham, by Brownlow Turk / Dr. of { Paget Turk / Betty Percival { Leede's Arab / Dr. of Spanker

(10) HERMES (1773).

HERMES { Chrysolite (1763) { Blank, 52 / Blossom (1742) { Crab, 1 / Dr. of { Childers, 2 / Miss Belvoir, 9
Juno (1764) { Spectator, 5 / Dr. of { Blank, 32 / Daughter of { Childers, 2 / Miss Belvoir, 9

(11) ANVIL (1779).

ANVIL { Herod, 2 / Dr. of { Feather { Godolphin / Daughter of { Childers, 2 / Miss Belvoir, by Grantham
Crazy { Lath (*brother to Cade*, 1) / Sister to Snip, 56

(12) PHENOMENON (1780).

PHENOMENON { Herod, 2 / Frenzy { Eclipse, 4 / Dr. of { Engineer (1756) { Sampson (1745) { Blaze, 2 / Hip Mare
Dr. of { Y. Greyhound / Curwen Bay Barb Mare
Dr. of { Blank / Lass of the Mill { Traveller, 42 / Miss Makeless

(13) DELPINI (1781).

DELPINI { Highflyer (1774) { Herod, 2 / Rachel, 32
Countess (1760) { Blank, 52 / Dr. of { Blaze, 2 / Dr. of { Greyhound, 53 / Curwen Bay Barb Mare

(14)

CHANTER (1782).

- **CHANTER** — Eclipse, 4
  - Daughter of — Herod, 2
    - Sister to Rachel, 52

(15)

WHISKEY (1789).

- **WHISKEY**
  - Saltram (1780) — Eclipse, 4
    - Virago — Snap, 36
      - Daughter of — Regulus, 4
        - Sister to Black and all Black, 59
  - Calash — Herod, 2
    - Teresa — Matchem, 1
      - Daughter of — Regulus, 4
        - Sister to Ancaster Starling

(16)

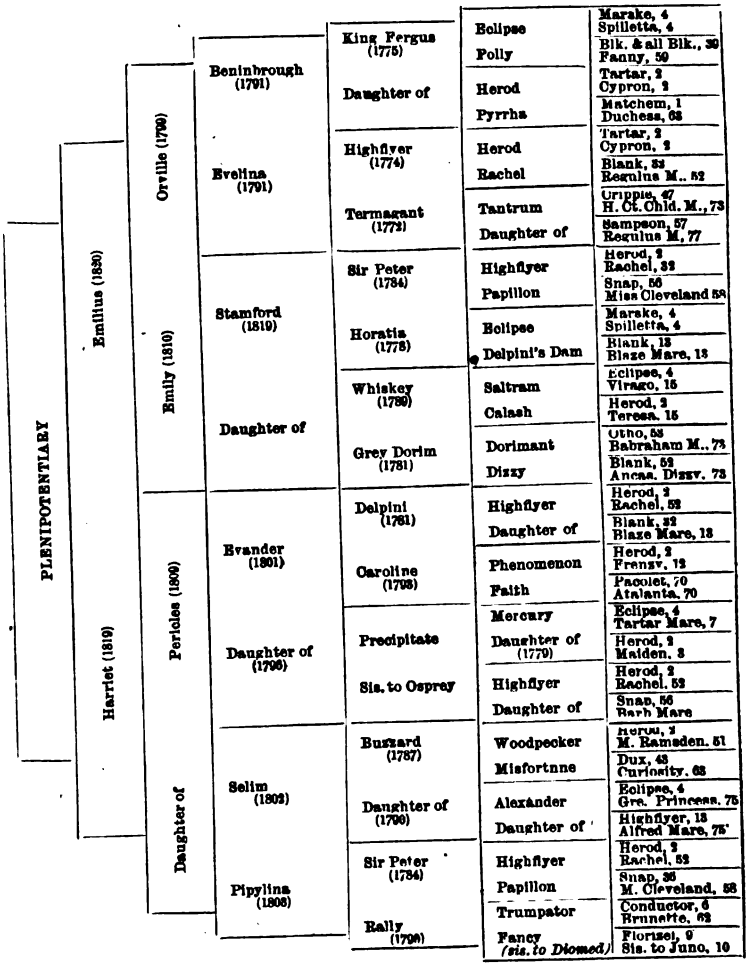
BOB BOOTY (1804),

MASTER BAGOT, GAMAHOE.

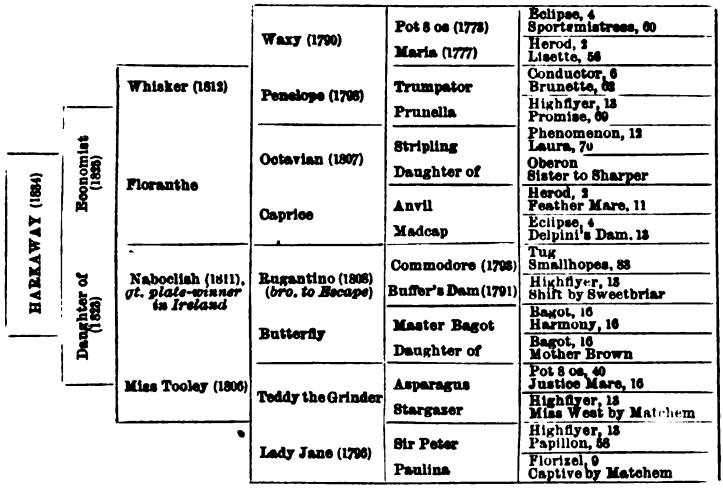
- **BOB BOOTY**
  - Chanticleer (1787) — Woodpecker, 31
    - Daughter of (1778) — Eclipse, 4
      - Rosebud (*sister to Elfrida*, 57)
  - Ierne
    - Master Bagot (1787)
      - Bagot (1780) — Herod, 2
        - Marotte (1786) — Matchem, 1
          - Dr. of — Traveller, 62
            - Dr. of Hartley's Bd. Horse, 35
      - Harmony (1776) — Eclipse 4,
        - Spindleshanks
          - Dr. of — Omar
            - Godolphin
            - Lath Mare
          - Dr. of — Starling
            - Dr. of Godolphin
    - Daughter of
      - Gamahoe — Bustard (1741)
        - Crab, 1
        - Miss Slamerkin, 59
      - Dr. of — Regulus, 4
        - Dr. of — Partner, 1
          - Dr. of — Bay Bolton, 31
            - Darley Arab Mare
      - Patty
        - Tim (1752) — Squirt, 4
          - Sister to Bajazet (1746) — Godolphin Barb
            - Dr. of — Whitefoot
              - Leede's Mare
        - Miss Patch
          - Justice — Litten Arab
            - Aldby Jenny
          - Ringtail Galloway
            - Dr. of — Curwen's Bay Barb
              - Hip
              - Sister to Piping Peg by Lister Tuck

(17) PLENIPOTENTIARY (1831),

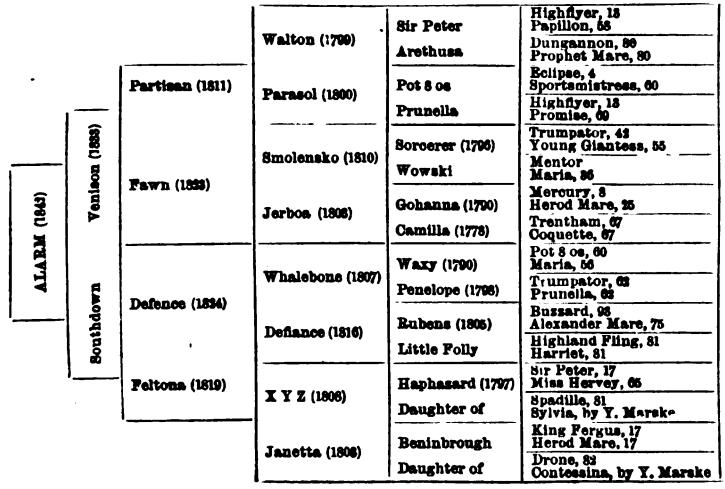
EMILIUS, ORVILLE, PERICLES, BENINBROUGH, STAMFORD, EVANDER, &c.



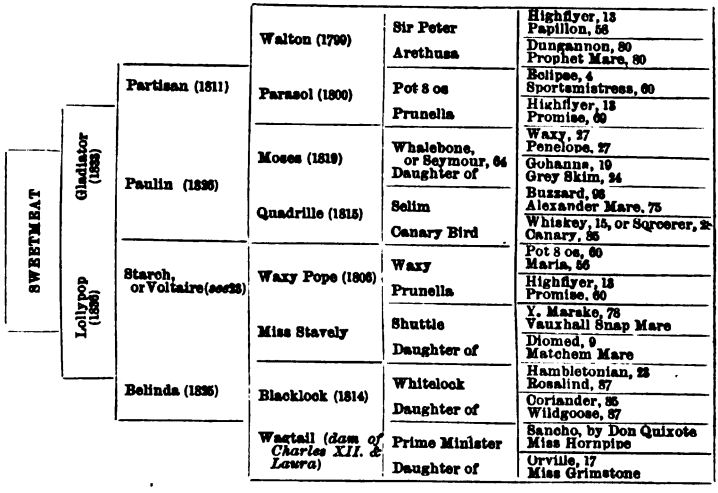
(18) HARKAWAY, ECONOMIST, NABOCLISH, MISS TOOLEY, OCTAVIAN, REIGANTINO.



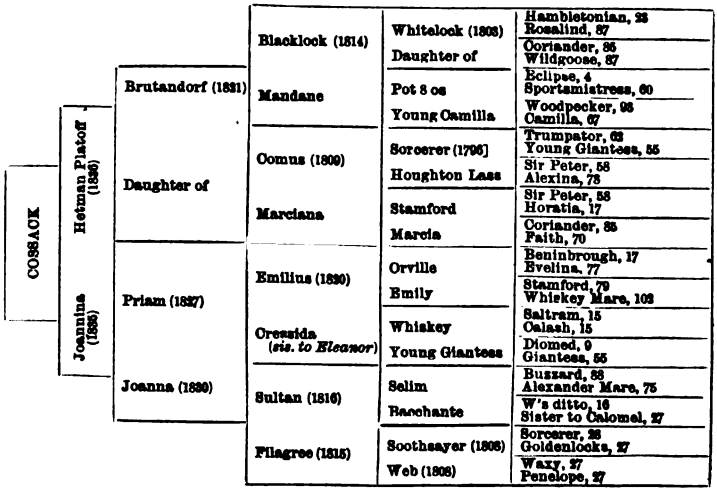
(19) ALARM, VENISON, PARTISAN, WALTON, WHALEBONE, DEFENCE, X Y Z, GOHANNA.



(20) SWEETMEAT (1842), GLADIATOR, PARTISAN, STARCH, WAXY POPE.

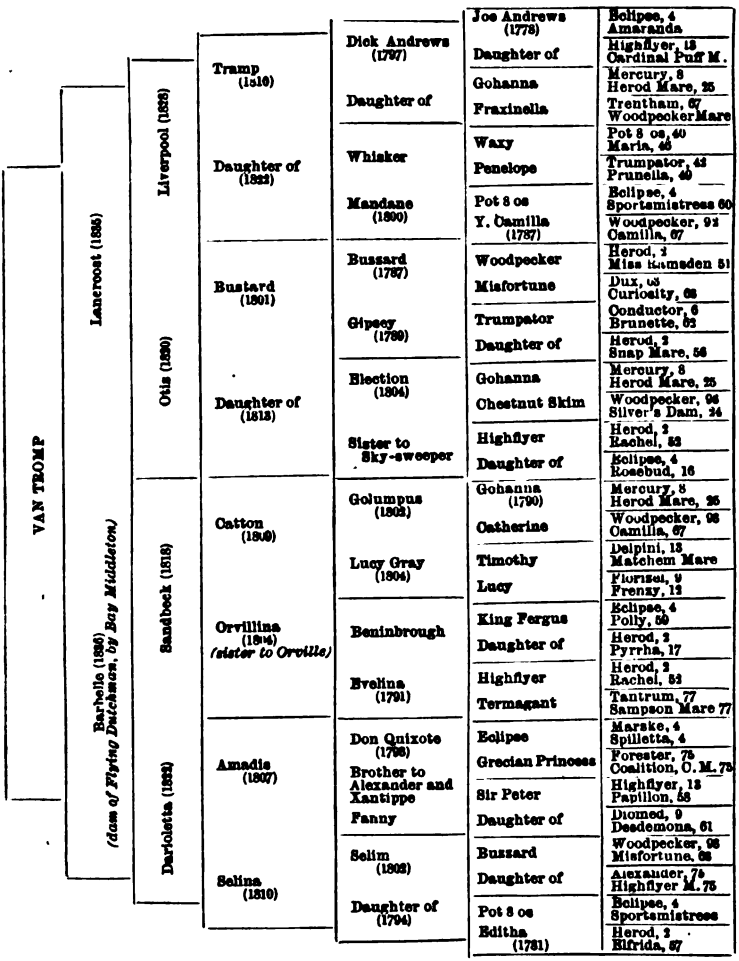


(21) COSSACK (1844), HETMAN PLATOFF, BRUTANDORF, BLACKLOCK.



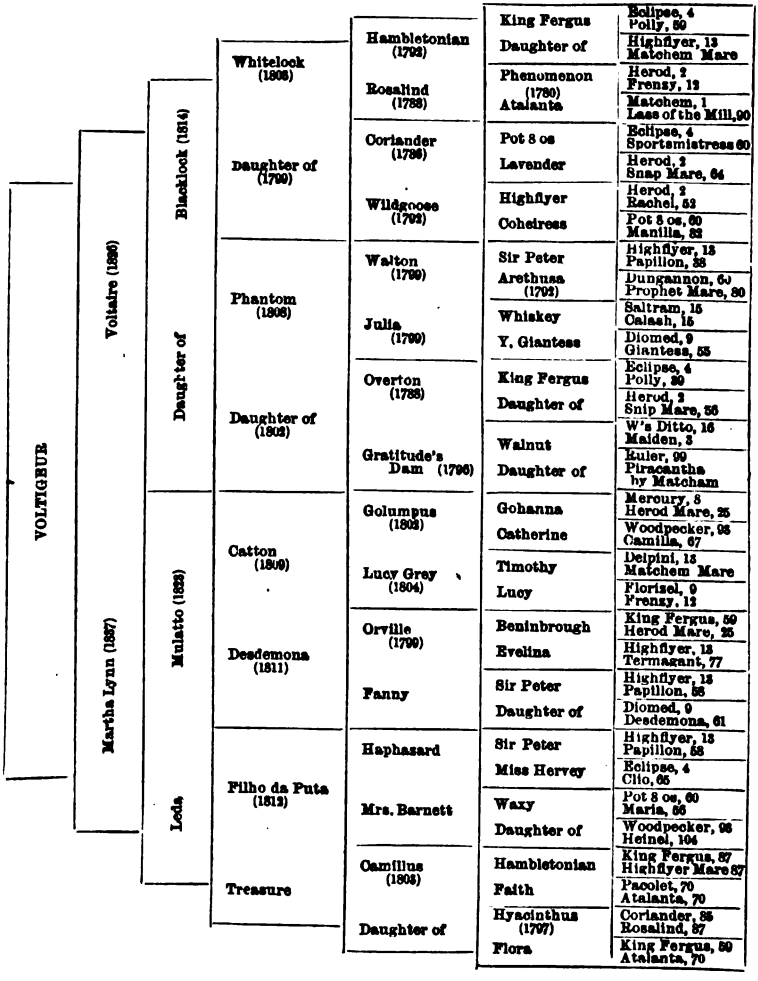
(22) VAN TROMP (1844),

LANERCOST, LIVERPOOL, TRAMP, CATTON, SANDBECK, BARBELLE, AND FLYING DUTCHMAN.



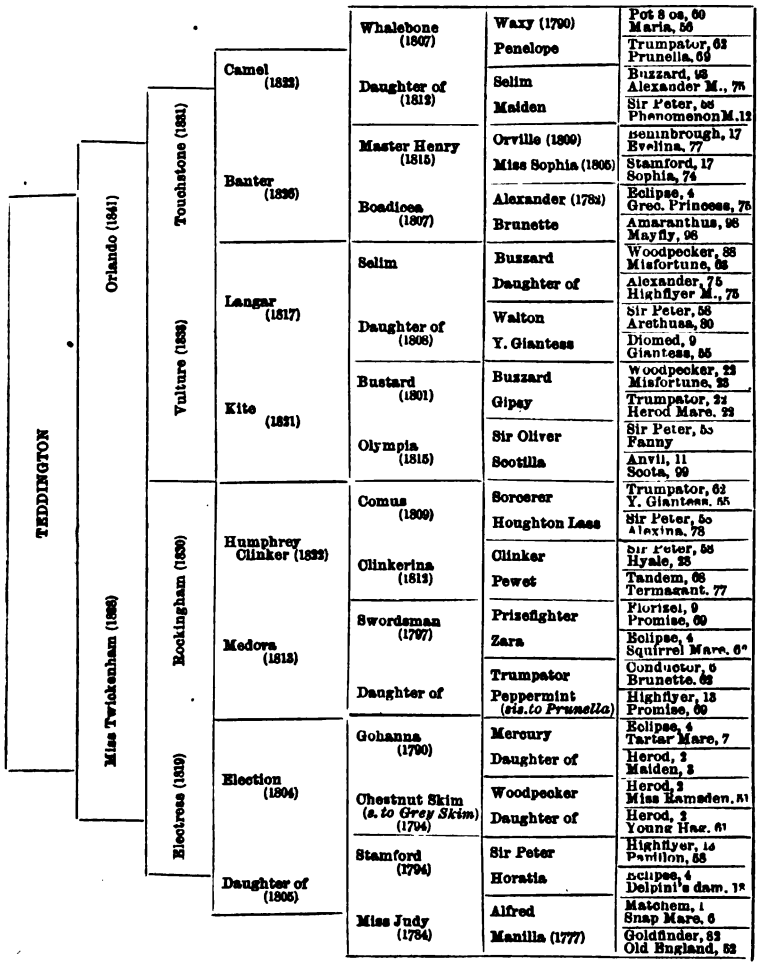
(23) VOLTIGEUR (1847),

VOLTAIRE, MARTHA LYNN, FILHO DA PUTA, &c.

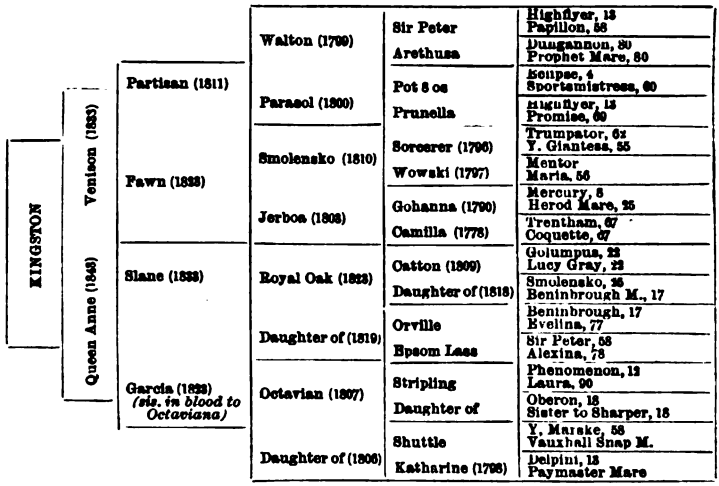


(24) TEDDINGTON (1848),

ORLANDO, TOUCHSTONE, CAMEL, VULTURE, ROCKINGHAM, LANGAR, AND ELECTION.

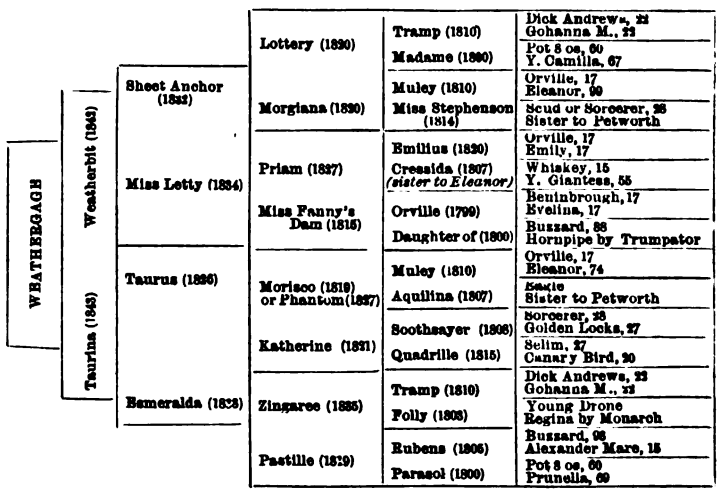


(25) KINGSTON (1849), VENISON, SLANE, PARTISAN, SMOLENSKO, GOHANNA, WALTON.



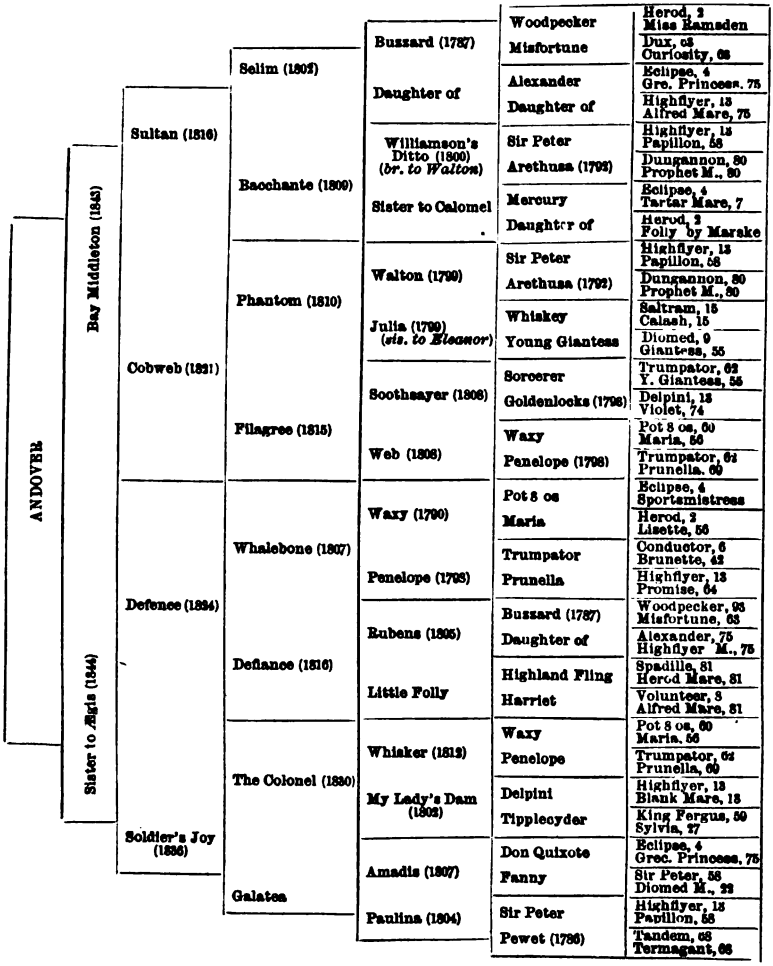
(26) WEATHERGAGE (1849),

WEATHERBIT, SHEET ANCHOR, ZINGANEE, MORISCO, MISS LETTY.

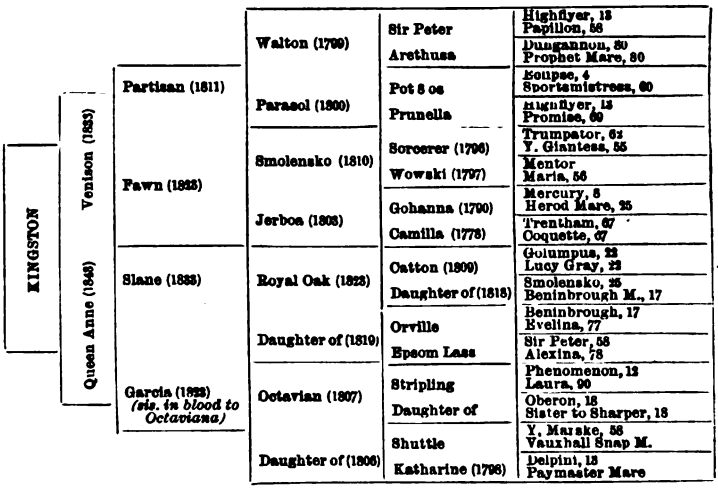


(27) ANDOVER (1851),

BAY MIDDLETON, SULTAN, COBWEB, DEFENCE, SELIM, BACCHANTE, PHANTOM, &c.

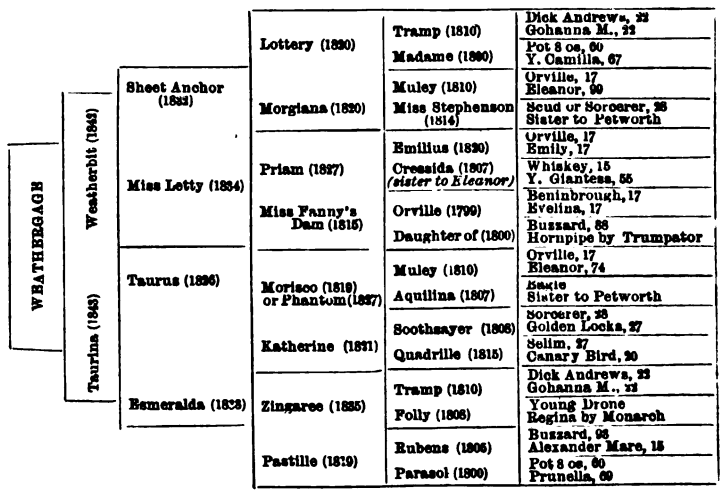


(25) KINGSTON (1849), VENISON, SLANE, PARTISAN, SMOLENSKO, GOHANNA, WALTON.



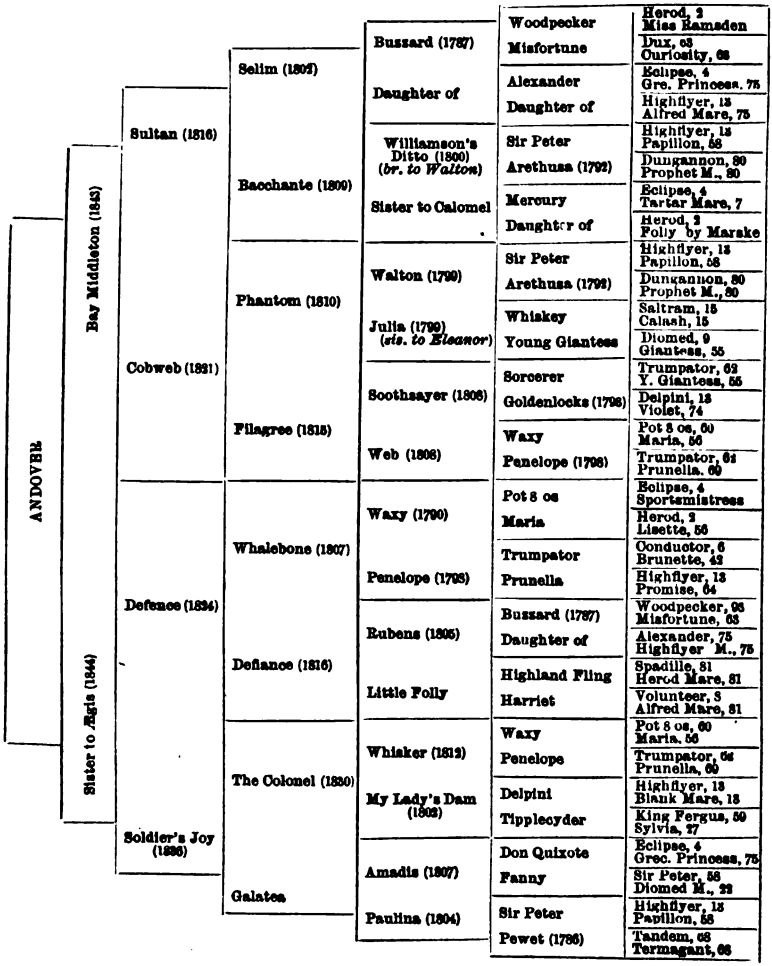
(26) WEATHERGAGE (1849),

WEATHERBIT, SHEET ANCHOR, ZINGANEE, MORISCO, MISS LETTY.



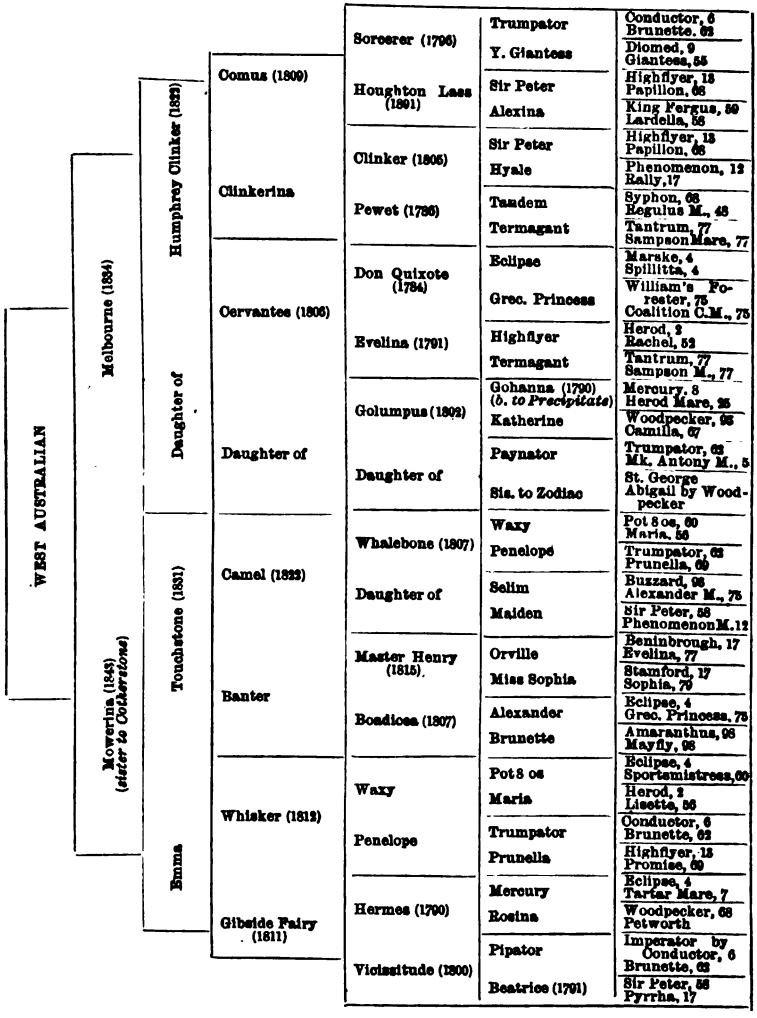
(27) ANDOVER (1851),

BAY MIDDLETON, SULTAN, COBWEB, DEFENCE, SELIM, BACCHANTE, PHANTOM, &c.



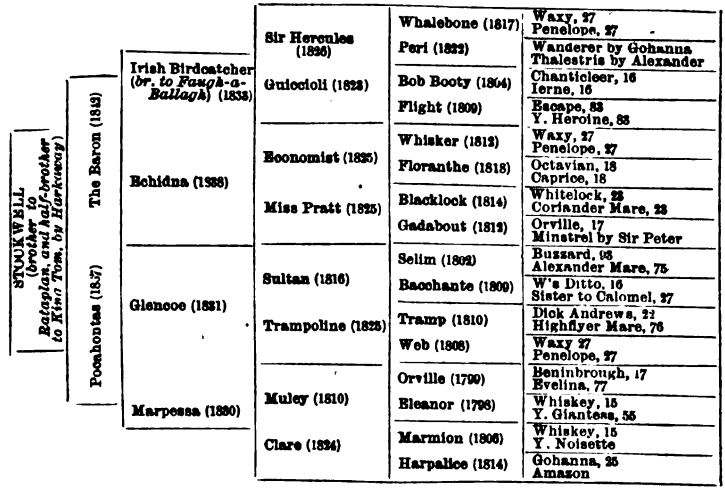
(28) WEST AUSTRALIAN (1850),

COTHERSTONE, MELBOURNE, HUMPHREY CLINKER, CERVANTES, WHISKER, &c.

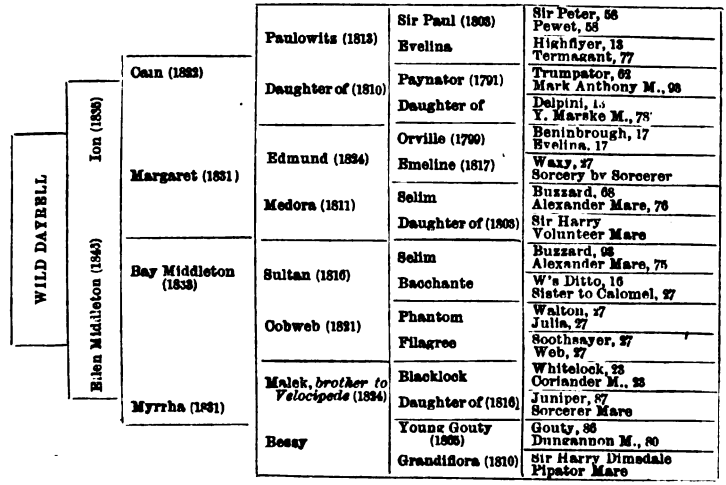


(29) STOCKWELL (1849),

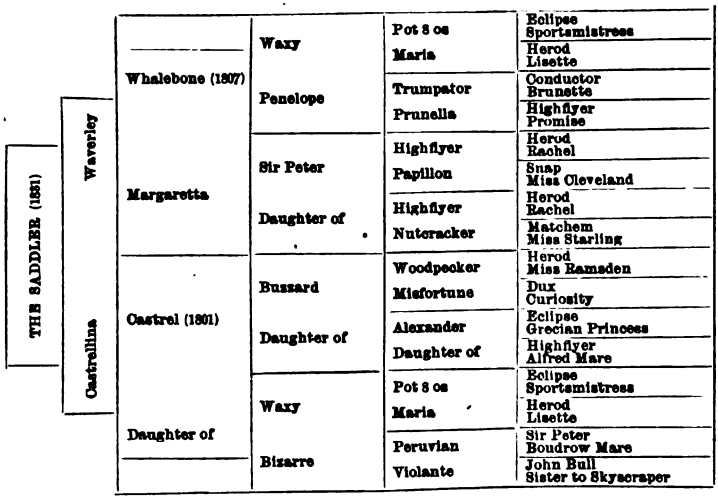
RATAPLAN, THE BARON, BIRDCATCHER, SIR HERCULES, GLENCOE, &c.



(30) WILD DAYRELL (1852), ION, CAIN, MALEK, PAULOWITZ, &c.

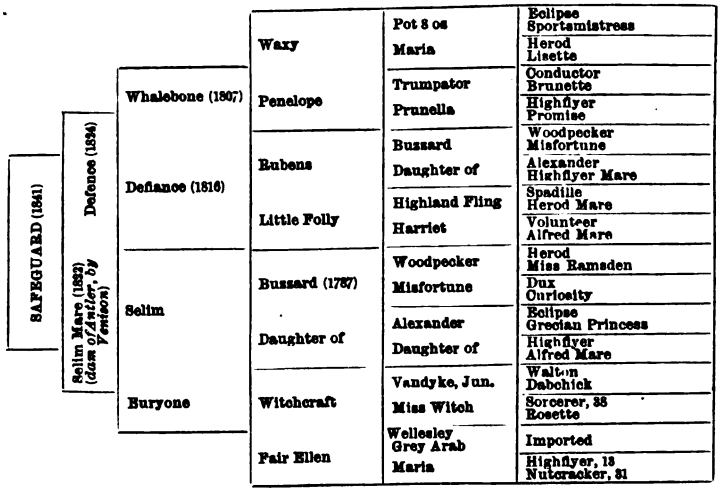


(31) THE SADDLER—WAVERLEY (1817),



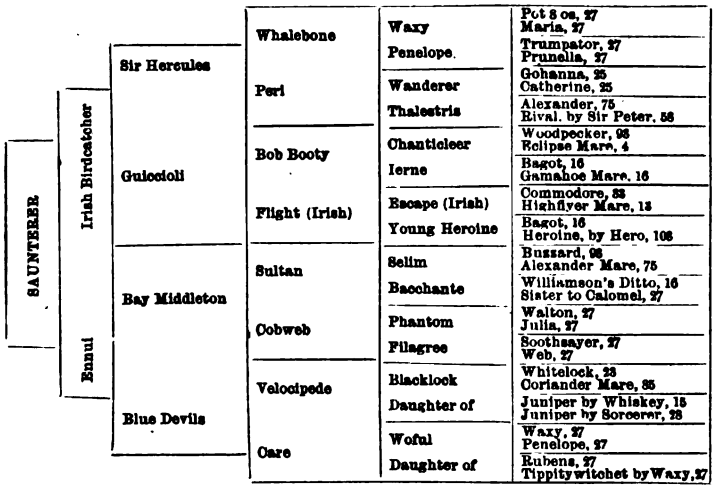
(32) SAFEGUARD,

WITCHCRAFT, FAIR ELLEN (*dam of Lilias, by Interpreter*).



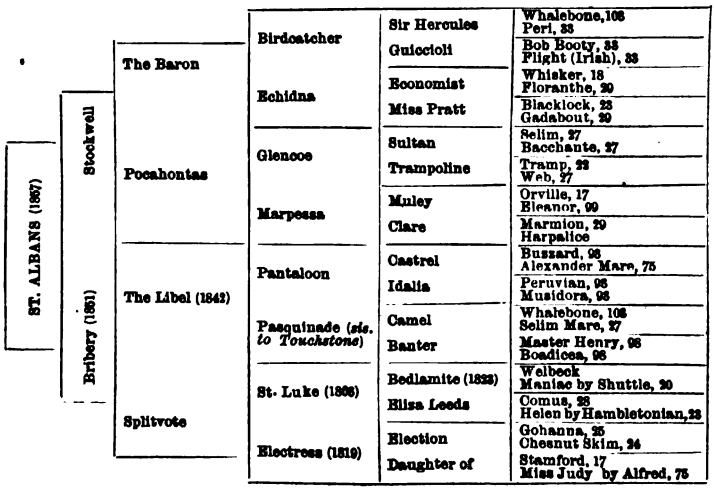
(33) SAUNTERER.

ENNUI, PHRYNE, DECOY, &c.



(34) ST. ALBANS (1857),

BRIBERY, THE LIBEL, PANTALOON, SPLITVOTE, ST. LUKE, ELECTRESS, &c.



(85) GEMMA DI VERGY (1854),

SNOWDROP, HERON, DECEPTIVE, DELIGHTFUL, VENISON, DEFENCE, &c.

GEMMA DI VERGY	Sir Hercules (1836)	Whalebone (1807)	Waxy	Pot 8 os Maria
			Penelope	Trumpator (1783) Prunella
		Peri	Wanderer (1811)	Gohanna Catherine (1795)
			Thalestris (1811)	Alexander Rival (1800)
	Snowdrop (1845)	Heron (1833)	Bustard (1813)	Castrel (1801) Miss Hap (1805)
			Daughter of	Orville (1799) Rosanne
		Fairy (1833)	Philo da Puta	Haphazard Mrs. Barnet
			Britannia	Orville (1799) Daughter of

Eclipse, 4
Sportsmistress, 00

Herod, 3
Lisette, 56

Conductor, 6
Brunette, 62

Highflyer, 13
Promise, 69

Mercury, 8
Herod Mare, 2

Woodpecker, 98
Camilla, 67

Eclipse, 4
Grecian Princess, 75

Sir Peter, 56
Hornet, 82

Buzzard, 98
Alexander Mare, 75

Shuttle, 20
Sister to Haphazard, 79

Beninbrough, 22
Evelina, 77

Dick Andrews, 12
Rosette by Beninbrough, 22

Sir Peter, 56
Miss Hervey, 65

Waxy, 27
Woodpecker Mare, 98

Beninbrough, 22
Evelina, 77

Coriander, 85
Sister to Fanny

(86) LEAMINGTON (1853),

FAUGH A BALLAGH, PANTALOON, DAPHNE, URSULINE, TREACHEROUS, MISS TWICKENHAM, ELECTRESS, &c.

LEAMINGTON	Faugh a Ballagh (1834)	Sir Hercules	Whalebone	Waxy Penelope
		Guiccioli	Peri	Wanderer Thalestris
	Daughter of (1841)	Pantaloon (1834)	Bob Booty	Chanticleer Ierne
			Flight	Escape (Irish) Young Heroine
		Daphne (1837)	Castrel (1801)	Bussard (1787) Daughter of
			Idalia (1815)	Peruvian (1806) Musidora (804)
			Laurel (1824)	Blacklock Wagtail (*dam of Charles XII.*)
			Maid of Honour (1839)	Champion (1813) Etiquette (1830)

Pot 8 os, 27
Maria, 27

Trumpator, 27
Prunella, 27

Gohanna, 25
Catherine, 25

Alexander, 75
Rival by Sir Peter, 88

Woodpecker, 98
Eclipse Mare, 4

Bagot, 16
Gamahoe Mare, 16

Commodore, 83
Highflyer Mare, 13

Bagot, 16
Heroine, by Hero, 108

Woodpecker, 98
Misfortune, 63

Alexander, 75
Highflyer Mare, 13

Sir Peter, 56
Boudrow Mare, 7

Meteor, 94
Maid of all Work (1786)

Whitelock, 23
Coriander Mare, 85

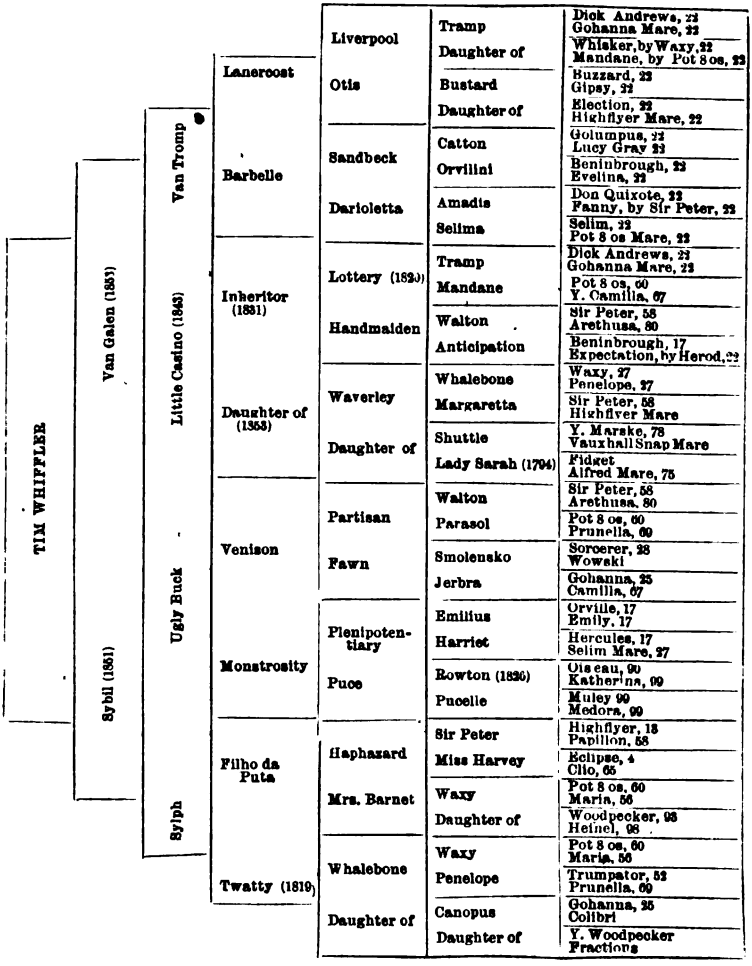
Prime Minister, 90
Orville Mare, 17

Selim, 27
Podagra (1805)

Orville, 17
Boadicea, 96

(87) TIM WHIFFLER (1859).

VAN GALEN, VAN TROMP, LANERCOST, BARBELLE, LITTLE CASINO, INHERITOR, SYBIL, UGLY BUCK, SYLPH.



(38) CHARLESTON (1853), bred in America.

SOVEREIGN, MILLWOOD, MONARCH, AMERICAN ECLIPSE, LYDIA, LEOPOLDINE, &c.

CHARLESTON	Sovereign	Emilius	Orville	Beninbrough 23 Evelina, 23
			Emily	Stamford, 17 Whiskey Mare, 15
		Fleur-de-lis	Bourbon	Sorcerer, 28 Precipitate Mare, 17
			Lady Rachel	Stamford Young Rachel
	Millwood	Monarch (1834)	Priam (1827)	Emilius, 21 Cressida, 21
			Delphine (1825)	Whisker, 15 My Lady, by Comus, 28
		Fanny	American Eclipse	Diomed, 9 Rockingham Mare, 24
			Maria West	Marion Ella Crump

(39) TURNUS,

TAURUS, ADA, ADELA, CLARISSA, &c.

TURNUS	Taurus	Phantom or Morisco	Walton	Sir Peter, 58 Arethusa, 30
			Julia	Whiskey, 15 Young Giantess 55
		Katherine	Soothsayer	Sorcerer, 28 Golden Locks, 27
			Quadrille	Selim, 23 Canary Bird, 20
	Clarissa	Defence	Whalebone	Waxy, 27 Penelope, 27
			Defiance	Rubens, 27 Little Folly, 31
		Clara	Filho da Puta	Haphazard, by Sir Peter 58 Mrs. Barnet, 98
			Clari	Smolensko, 25 Precipitate Mare, 17

(40) CARACTACUS (1859).

CARACTACUS
- Kingston, 25
- Defenceless
  - Defence, 103
  - Dr. of
    - Cain, 30
    - Ridotto
      - Reveller, by Comus, 28
      - Dr. of Walton, 27

(41) MACARONI (1860).

MACARONI
- Sweetmeat
  - Gladiator, 20
  - Lollypop, 20
- Jocose
  - Pantaloon, 98
  - Banter, 98

(42) ANFIELD (1860).

THE CONFESSOR, COWL, FOREST FLY, BARBARIAN, ALLEGRETTE, &c.

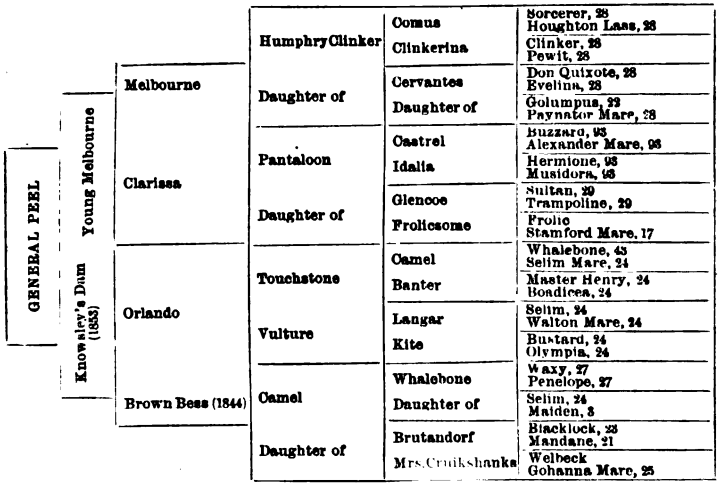
ANFIELD	The Confessor	Cowl	Bay Middleton	Sultan	Selim, 27
				Cobweb	Bacchante, 27
			Crucifix	Priam	Phantom, 27
				Octaviana	Pilgarree, 27
		Forest Fly	Mosquito	Emilius	Emilius, 17
				Butterfly (1823)	Cressida, 21
			Walfruna	Velocipede	Octavian, 18
				Daughter of	Shuttle Mare, 20
	Daughter of (1856)	Barbarian	Simoom, 1838 (Bro. to Seahorse)	Camel	Orville, 17
				Sea Breeze	Emily, 17
			Daughter of, 1835	Buzzard (1821)	Magistrate
				Donna Maria	Pilagree, 27
		Allegretta (1845)	St. Luke, 1833	Bedlamite (1823)	Blacklock, 23
				Eliza Leeds (1827)	Juniper Mare, 27
			Alba, 1835.	Dandy (1826)	Filho da Puta, 26
				Beresina	D. Andrews Mare, 23
					Whalebone, 26
					Selim Mare, 26
					Paulowitz, 20
					Zephyretta, by Hedley
					Blacklock, 23
					Delpini Mare, 13
					Partizan, 19
					Donna Clara
					Welbeck
					Maniac, by Shuttle, 20
					Comus, 26
					Helen, by Hambletonian, 23
					Dandy, by Sligo Waxy
					Folly, by Waxy, 27
					Smolensko, 25
					Mayflower, by Sir Peter, 58

(43) BLACKDOWN (1860).

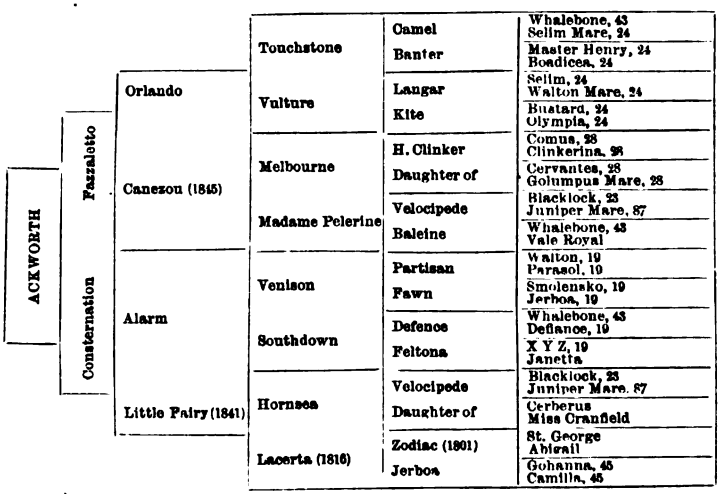
RATTLE, THE FALLOW BUCK, FLATCATCHER, THE HAMBLE, CHEMISE, SUBTILTY, &c.

BLACKDOWN	Rattle (1850)	The Fallow Buck, (1845)	Venison	Partisan	Walton, 86
				Fawn	Parasol, 25
			Pienary, sis. to Pienipo	Emilius	Smolensko, 25
				Harriet	Jerboa, 25
		The Hamble (1830)	Camel	Whalebone	Orville, 17
				Daughter of	Emily, by Stamford, 17
			Fanny (1827)	Whisker	Pericles, 17
				Daughter of	Selim Mare, 17
	Subtility (1855)	Flatcatcher (1839)	Touchstone	Camel	Waxy, 27
				Banter	Penelope, 27
			Decoy, 1820	Filho da Puta	Selim, 27
				Finesse	Maiden, 58
		Chemise (1843)	Slane	Royal Oak	Waxy, 27
				Daughter of	Penelope, 27
			Sise (1837)	Starch	Whisker
				Magawiska (1826)	Daughter of
					Camillus, 99
					Precipitate Mare, 17
					Whalebone, 27
					Selim Mare, 27
					Master Henry, 98
					Boadicea, 98
					Haphazard, 79
					Mrs. Barnet, 98
					Peruvian, 98
					Violante, 98
					Catton, 22
					Smolensko Mare, 25
					Orville, 17
					Epsom Lass, 25
					Waxy Pope, 100
					Miss Stavelly, 20
					Whisker, 13
					Slight, by Selim, 27

(44) GENERAL PEEL (1861), YOUNG MELBOURNE, &c.

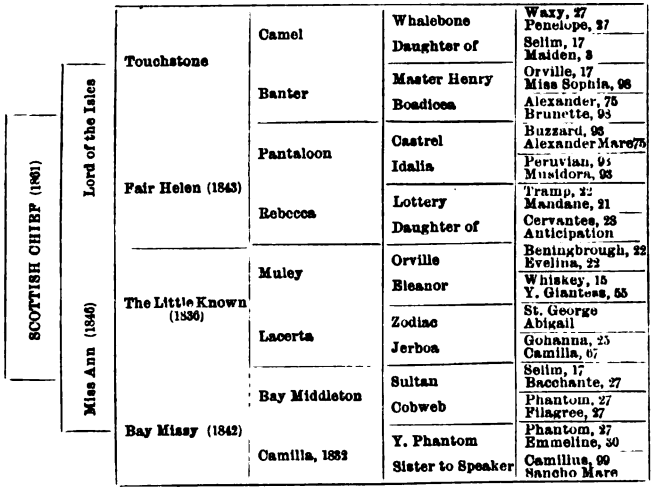


(45) ACKWORTH (1861), FAZZALETTO, CONSTERNATION, LITTLE FAIRY, &c.



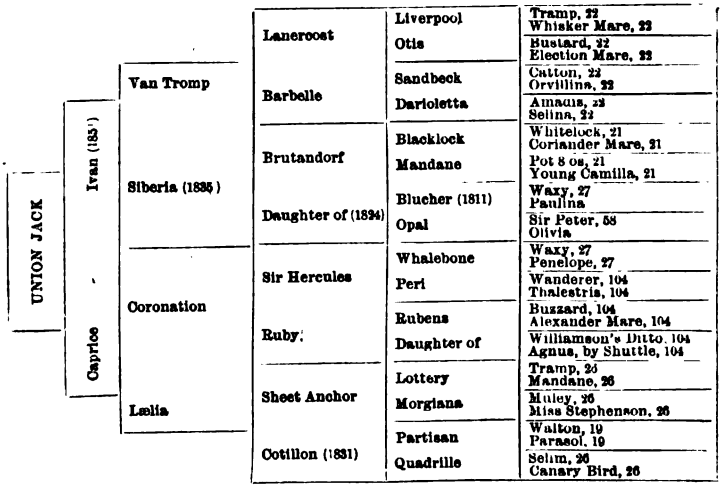
(46) SCOTTISH CHIEF (1861),

LORD OF THE ISLES, FAIR HELEN, MISS ANN, THE LITTLE KNOWN, BAY MISSY, CAMILLA, &c.



(47) UNION JACK (1861).

IVAN, VAN TROMP, CAPRICE, CORONATION, LÆLIA, &c.



(48) THE GREAT UNKNOWN (1845),
LADY HERCULES, LADY SALE, &c.

THE GREAT UNKNOWN	Voltaire	Blacklock	Whitelock	Hambletonian, 22
				Rosalind, 22
			Daughter of	Coriander, 24
				Wildgoose, 24
		Daughter of	Phantom	Walton, 24
				Julia, 24
			Daughter of	Overton, 23
				Walnut Mare, 23
	Princess (1841)	Slane	Royal Oak	Catton, 26
				Smolensko Mare, 26
			Daughter of	Orville, 26
				Epsom Lass, 26
		Sis. to Cobweb	Phantom	Walton, 19
				Julia, 27
			Filagree	Soothsayer, 27
				Web, by Waxy, 27

(49) OXFORD (1857) (*Sire of Student*).

OXFORD { Irish Birdcatcher { Sir Hercules, 29 / Guiccioli, 29 } / Honey Dear { Plenipotentiary, 17 / My Dear, 49 }

(50) PROMISED LAND (1856)

PROMISED LAND { Jericho (1842) { Jerry, by Smolensko (1821) / Turquoise, by Selim (1825) } / Glee (1843) { Touchstone, 98 / Harmony, by Reveller } }

(51) MISS RAMSDEN (*dam of Woodpecker*, 1763, *by Herod*).

MISS RAMSDEN (1760) { Cade. 1 / Dr. of { Lonsdale Bay Arab / Dr. of { Bay Bolton (1705) { Grey Hautboy, by Hautboy, 2 / Lr. of { Makeless, 1 / Dr. of { Brimmer, 1 / Dr. of { Diamond / Sister to Merlin's dam } } } } / Dr. of { Darley Arab / Dr. of { Byerley Park / Dr. of { Place's White Turk / Dr. of { Taffolet Barb / Natural Barb Mare } } } } } } }

(52) RACHEL (*sister to Ruth*).

RACHEL (1763) { Blank (1740) (*bro. to O. Eng.*) { Godolphin / Little Hartley M { Bartlett's Childers, 4 / Flying Whig { Woodstock Arab / Dr. of { St. Victor's Barb / Why Not Mare, 1 } } } } / Daughter of { Regulus, 4 / Daughter of { Soreheels, 1 / Daughter of { Makeless, 1 / D'Arcy Royal Mare } } } }

(53) PRINCIPESSA (1762).

PRINCIPESSA — Blank (1740), 52; Dr. of Cullen Arab; Lady Thigh — Partner, 1; Dr. of Greyhound (Imported Arab); Sophonisba's Dam — Curwen's Bay Barb; D'Arcy's Arab Mare

(54) FOLLY (1764).

FOLLY — Blank, 32; Sister to Regulus, 4

(55) GIANTESS (1769).

GIANTESS (*dam of Y. Giantess, by Diomed*) — Matchem (1748), 1; Molly Long-legs (1753) — Babraham (1740) — Godolphin; Large Hartley M. — Hartley's Blind Horse — Holderness Turk; Black M. — Mkless, 1; D'Arcy; Royal M.; Flying Whig, 52; Dr. of — Cole's Foxhunter — Brisk (*son of Darley Arab*); Rutland Brown Betty, by Basto; Sister to Cato — Partner, 1; Sister to Roxana, 1

(56) LISETTE (1772).

LISETTE (*dam of Maria, by Herod, and sister to Signora*) — Snap (1750) — Snip (1736) — Childers, 2; Sister to Soreheels, 1; Dr. of — Fox, 2; Gipsey — Bay Bolton, 51; Daughter of — Newcastle Turk; Daughter of Byerley Turk; Miss Windsor (1754) — Godolphin; Sister to Volunteer — Y. Belgrade — Belgrade Turk; Daughter of — Bay Bolton, 51; Scarborough Mare; Daughter of — Bartlett's Childers, 4; Dr. of Devonshire Chestnut Arab

(57) ELFRIDA (1768).

ELFRIDA — Snap, 56; Miss Belsea — Regulus, 4; Daughter of — Bartlett's Childers, 4; Daughter of — Honeywood's Arab; Dam of the Two True Blues

(58) PAPILLON (1769).

PAPILLON (*dam of Sir Peter by Highflyer*) — Snap, 56; Miss Cleveland (1758) — Regulus, 4; Midge — Son of Bay Bolton, 51; Daughter of — Bartlett's Childers, 4; Daughter of — Honeywood's Arab; Dam of the Two True Blues

(59) POLLY (1756).

- POLLY (*dam of King Fergus, by Eclipse*)
  - Black and all Black
    - Crab, 1
    - Miss Slamerkin
      - Y. True Blue by Williams' Turk
      - Dr. of
        - Lord Oxford's Dun Arab
        - Black-legged Royal Mare
  - Fanny
    - Tartar, 2
    - Daughter of
      - Starling, bro. to Camilla, 3
      - Daughter of
        - Childers, 2
        - Dr. of
          - Grantham
          - Dr. of
            - Williams' Bay
            - Baldkey

(60) SPORTSMISTRESS (1765).

- SPORTSMISTRESS (*dam of Pot 8 os, by Eclipse*)
  - Sportsman (1753)
    - Cade, 1
    - Silvertail (1739)
      - Heneage's Whitenose (1722)
        - Hall's Arabian
        - Dam of his Jig
      - Daughter of
        - Rattle
        - Dr. of
          - Darley Arab
          - Dr. of
            - Gresley's Bay Arab
            - Vixen
              - Helmsley Turk
              - Dodsworth's dam
  - Goldenlocks
    - Oronooko (1745)
      - Crab, 1
      - Miss Slamerkin, 59
    - Daughter of
      - Crab, 1
      - Daughter of
        - Partner, 1
        - Thwaits's Dun Mare

(61) DESDEMONA (1770).

- DESDEMONA
  - Marske (1750), 4
  - Young Hag (1762)
    - Skim
      - Starling, 59
      - Daughter of Bartlett's Childers, 4
    - Hag
      - Crab, 1
      - Ebony
        - Childers, 2
        - Old Ebony, by Basto, 1

(62) BRUNETTE (1771).

- BRUNETTE (*dam of Trumpator, by Conductor*).
  - Squirrel (1754)
    - Old Traveller (1735)
      - Partner, 1
      - Dr. of
        - Almanzor
          - Darley Arab
          - Hautboy Mare, 2
        - Daughter of
          - Grey Hautboy, 1
          - Makeless Mare, 1
    - Daughter of
      - Bloody Buttocks
      - Daughter of
        - Greyhound
        - Makeless Mare, 1
  - Dove (1764)
    - Matchless
      - Godolphin
      - South's dam, 67
    - Dr. of (1755)
      - Ancaster Starling
        - Starling, bro. to Camilla, 3
        - ——
      - Daughter of
        - Grasshopper
        - Dr. of Newton's Arab
          - Crab, 1
          - Cartridge Ball

(63) MISFORTUNE (*dam of Buzzard, by Woodpecker*).

- MISFORTUNE (1775)
  - Dux (1761)
    - Matchem, 1
    - Duchess (1748)
      - Whitenose (1742)
        - Godolphin
        - Sister to Blaze, 2
      - Miss Slamerkin, 39
  - Curiosity
    - Snap, 56
    - Sister to Miss Belsea, 37

(64) LAVENDER (1778).

LAVENDER { Herod, 2 / Daughter of, 1765 { Snap, 56 / Miss Roan { Cade, 1 / Bloody Buttocks Mare

(65) MISS HERVEY (1775).

MISS HERVEY { Eclipse, 4 / Clio (1768) { Y. Cade (*brother in blood to Matchem*, 1) / Daughter of (1759) { Starling, 59 / Daughter of { Bartlett's Childers, 4 / Dr. of { Bay Bolton, 51 / Dr. of { Byerley Turk / Bustler Mare

(66) EVERLASTING (1775).

EVERLASTING { Eclipse, 4 / Hyena, *sister to Elfrida*

(67) CAMILLA (1778)

CAMILLA (*dam of Y. Camilla, by Woodpecker*) { Trentham (1716) { Sweepstakes (1749) { Gower Stallion (*son of Godolphin*) / Daughter of { Partner, 2 / Sister to Matchem's dam, 1 ; Miss South (1758) { South (1750) { Regulus, 4 / Daughter of { Sorehocls, 1 / Daughter of { Makeless, 1 / D'Arcy Royal Mare ; Daughter of { Cartouche { Bald Galloway, 1 / Dr. of { Cripple, bro. to Cygnet, 9 / Sister to Matchem's dam, 1 ; Ebony, 61 ; Coquette (1764) { Compton Barb / Sister to Regulus, 4

(68) PEWIT (1786).

PEWIT { Tandem (1773) { Syphon (1750) { Squirt, 4 / Daughter of { Patriot (1729) { Bay Bolton, 51 / Dr. of { Jig, 1 / Old Lady, by Pullen's Arab, 3 ; Daughter of { Crab, 1 / Sister to Sloven { Bay Bolton, 31 / Sister to Mixbury, 1 ; Daughter of { Regulus, 4 / Dr. of { Snip, 56 ; Cottingham Mare { Cottingham (1735) { Hartley's Bd. Horse, 55 / —— ; Termagant (1772) { Eclipse, 4 / Leopardess { Merlin. / —— ; Warloch Galloway { Snake, 4 / Sister to Carlisle Gelding

(69) PRUNELLA (*dam of Penelope, by Trumpeter; of Parasol, by Pot 8 os; and of Pope by Waxy*).

PRUNELLA (1788) { Highflyer (1774) { Herod, 2 / Rachel, 52 ; Promise, (1768) { Snap, 36 / Julia { Blank, 52 / Spectator's dam, 5 (1735)

(70) FAITH (1779)

- FAITH
  - Pacolet
    - Blank, 53
    - Whiteneck
      - Crab, 1
      - Godolphin Mare
  - Atalanta (1769)
    - Matchem, 1
    - Lass of the Mill
      - Oronooko, 60
      - Daughter of
        - Old Traveller, 62
        - Miss Makeless
          - Y. Greyhound
          - Partner Mare

(71) MATRON (1782)

- MATRON
  - Florizel, 9
  - Maiden (*sister to Xanthos*, 3)

(72) LUNA (1779).

- LUNA
  - Herod, 2
  - Proserpine, sister to Eclipse, 4

(73) GREY DORIMANT (1781).

- GREY DORIMANT
  - Dorimant (1772)
    - Otho (1760)
      - Moses (1746)
        - Chedworth Foxhunter
        - Portland Arab Mare
      - Miss Vernon
        - Cade, 1
        - Sister to Widdrington Mare
          - Partner, 1
          - Sister to Squirrel's dam
    - Daughter of (1754)
      - Babraham, 35
      - Childers (1733)
        - Hampton Court Childers
          - Childers, 2
            - Newcastle Turk
            - D'Arcy's White Turk Mare
          - Duchess
        - Bold Charlotte
          - Old Royal
          - Daughter of
            - Bethel's Castaway
            - Brimmer Mare
  - Dizzy (1757)
    - Blank, 32 (1740)
    - Ancester Dizzy (1741)
      - Driver
        - Wynns' Arab
        - Lady Mare
          - Pert, by the Turk
          - Daughter of St. Martin
            - Spanker
            - Barb Mare
      - Daughter of
        - Smiling Tom (1734)
          - Conyer's Arab
          - Daughter of
            - Chillaby Barb
            - Makeless Mare, 1
        - Daughter of
          - Oysterfoot
          - Daughter of
            - Merlin
            - Dr. of
              - Commoner
              - Copper M.

(74) VIOLET (1787).

- VIOLET
  - Shark (1771)
    - Marske, 4
    - Daughter of
      - Snap, 36
      - Daughter of
        - Marlborough (*brother to Babraham*, 55)
        - Natural Barb Mare
  - Daughter of
    - Syphon, 68
    - Quick's Charlotte
      - Blank, 52
      - Daughter of
        - Crab, 1
        - Daughter of
          - Dyer's Dimple
          - Dr. of Bethel's Castaway

(75) ALEXANDER MARE (1790)

- ALEXANDER MARE (dam of *Castrel, Selim, and Rubens, by Buzzard*).
  - Alexander (1782)
    - Eclipse, 4
    - Grecian Princess (1770)
      - Forester William (1750)
        - Forester (1736)
          - Dr. of Looby
          - Hartley's B H, 55
          - Bay Brocklesby
        - Partner, 1
        - Brocklesby's dam
      - Daughter of
        - The Coalition Colt, by Godolphin
        - Dr. of
          - Bustard
          - Charming Molly
            - Crab, 1
            - M. Slamerkin 39
  - Daughter of
    - Highflyer, 49
    - Daughter of
      - Alfred (*brother to Conductor*, 6)
      - Daughter of
        - Engineer, 12
        - Bay Malton's dam
          - Cade, 1
          - Lass of the Mill, 12

(76) HIGHFLYER MARE (1790).

HIGHFLYER MARE (*dam of Dick Andrews, by Joe Andrews, and Don Quixote, by Chanter*)
- Highflyer, 69
- Dr. of
  - Cardinal Puff
    - Babraham, 55
    - Daughter of
      - Snip, 56
      - Lady Thigh, 53
  - Daughter of (1777)
    - Tatler (*brother to Julia*, 49) 1754
    - Daughter of
      - Snip, 36
      - Daughter of
        - Godolphin
        - Daughter of
          - Whiteneck, 70
          - Pelham Barb Mare

(77) EVELINA (1791)

EVELINA
- Highflyer, 69
- Termagant
  - Tantrum (1760)
    - Cripple
      - Godolphin
      - Blossom by Crab
    - Daughter of Hampton Court Childers, 53
  - Cantatrice
    - Sampson, 12
    - Daughter of
      - Regulus, 4
      - Marske's Dam, 4

(78) ALEXINA (1788).

ALEXINA
- King Fergus (1775)
  - Eclipse, 4
  - Polly, 69
- Lardella, 39 (1780)
  - Y. Marske (1771)
    - Marske, 4
    - Dr. of
      - Blank, 52
      - Bay Starling
        - Starling, 39
        - Miss Meynelle (*sister to Jenny Spinner*), 80
  - Daughter of
    - Cade, 1
    - Beaufremont's Dam

(79) MISS SOPHIA (1805).

MISS SOPHIA
- Stamford
  - Sir Peter, 58
  - Horatio
    - Eclipse, 2
    - Delpini's Dam, 13
- Sophia
  - Buzzard
    - Woodpecker, 31
    - Misfortune, 43
  - Huncamunca
    - Highflyer, 49
    - Cypher
      - Squirrel, 32
      - Regulus Mare, 4

(80) ARETHUSA (1792).

ARETHUSA
- Dungannon (1780)
  - Eclipse, 4
  - Aspasia
    - Herod, 2
    - Doris
      - Blank, 52
      - Helen
        - Spectator, 5
        - Daphne
          - Godolphin
          - Fox Mare
- Daughter of
  - Prophet, (1760)
    - Regulus 14
    - Jenny Spinner (1740)
      - Partner, 1
      - Greyhound Mare
  - Virago, 15

(81) LITTLE FOLLY (1806.)

LITTLE FOLLY
- Highland Fling (1798)
  - Spadille (1784)
    - Highflyer, 69
    - Flora
      - Squirrel, 62
      - Angelica (*by Snap out of sister to Miss Belsea*, 57)
  - Cœlia
    - Herod, 2
    - Proserpine (*sister to Eclipse*, 4)
- Harriet
  - Volunteer, 8
  - Daughter of
    - Alfred (*brother to Conductor*, 6)
    - Magnolia, by Marske

(82) RIVAL (1800).

- **RIVAL**
  - Sir Peter, 38
  - Hornet (1790)
    - Drone (1777)
      - Herod, 2
      - Lily (1765)
        - Blank, 52
        - Peggy (1753)
          - Cade, 1
          - Sister to Widdrington Mare, 53
    - Manilla (1777)
      - Goldfinder
        - Snap, 56
        - Daughter of
          - Blank, 52
          - Regulus Mare
      - Old England Mare, 52

(83) FLIGHT (1809).

- **FLIGHT** (*dam of Guiccioli*)
  - Escape (1802)
    - Commodore (1793)
      - Tug
        - Herod, by Y. Snip
        - Legacy
      - Smallhopes
        - Scaramouch
        - Dr. of
          - Blank, 32
          - Dr. of Traveller, 62
    - Buffer's dam
      - Highflyer, 13
      - Shift
        - Sweetbriar
        - ——
  - Y. Heroine
    - Old Bagot, 16
    - Old Heroine
      - Hero (*son of Cade*)
      - Dr. of
        - Snip, 36
        - Sister to Regulus, 4

(84) BAY JAVELIN (1793), (*dam of Seymour, by Delpini*).

- **BAY JAVELIN**
  - Javelin
    - ——
    - Spectator Mare
  - Y. Flora (*sister to Spadille*)
    - Highflyer, 13
    - Flora, 6

(85) CANARY (about 1805).

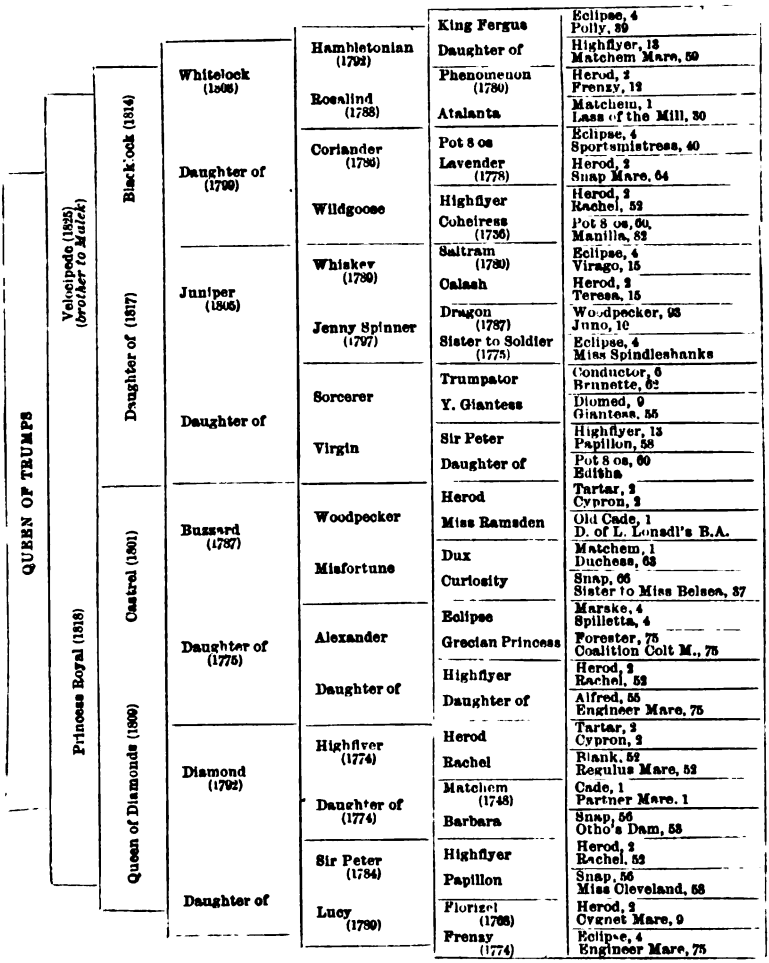
- **CANARY** (1797)
  - Coriander
    - Pot 8 os, 60
    - Lavender, 64
  - Miss Green (1787)
    - Highflyer, 13
    - Harriet
      - Matchem, 1
      - Flora
        - Regulus, 4
        - Daughter of
          - Bartlett's Childers, 4
          - Bay Bolton Mare

(86) SYLPH (*dam of Lugwardine, Newcourt, and Lady Lift*), SPECTRE, GOUTY, &c.

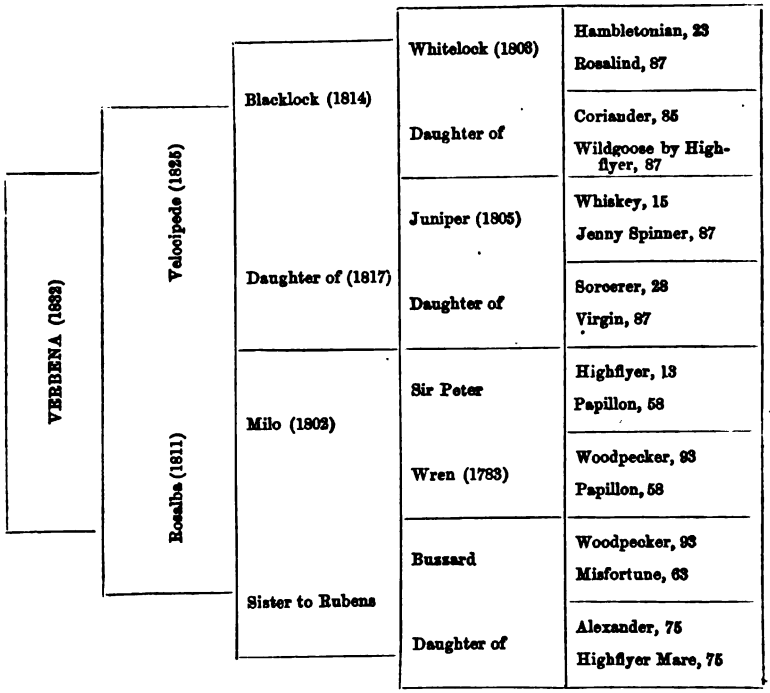
- **SYLPH** (1824)
  - Fanny Leigh (1812) (*sis. to Buzzard*)
    - Phantom (1801)
      - Walton (1799)
        - Sir Peter, 58
        - Arethusa, 80
      - Julia (1799) (*sis. to Eleanor*)
        - Whiskey, 15
        - Y. Giantess
    - Fillikins (1804)
      - Gouty (1796)
        - Sir Peter, 58
        - Yellow Mare, by Tandem, 65
      - Daughter of
        - King Fergus, 59
        - Herod Mare
  - Spectre (1815)
    - Castrel (1801)
      - Buzzard (1787)
        - Woodpecker, 93
        - Misfortune, 67
      - Daughter of
        - Alexander, 75
        - Highflyer Mare, 75
    - Mishap
      - Shuttle (1793)
        - Y. Marske, 78
        - Vauxhall Snap M.
      - Sister to Haphazard (1798)
        - Sir Peter, 58
        - Miss Hervey, 65

(87) QUEEN OF TRUMPS (1832),

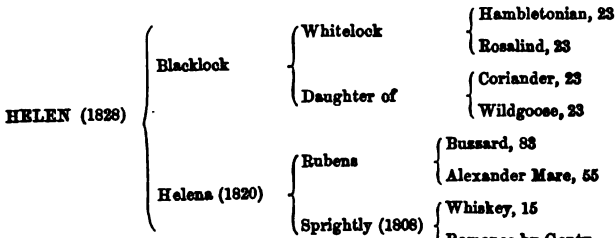
VELOCIPEDE, MALEK, JUNIPER, DIAMOND, &c.



(88) VERBENA (*dam of Ithuriel, by Touchstone*), ITHURIEL, MILO, &c.



(89) HELEN (*dam of St. Laurence, by Skylark (son of Waxy Pope), or Lapwing*).



(90) BEESWING

(*Dam of Newminster and Nunnykirk, by Touchstone, and of Old Port, by Sir Hercules*), DOCTOR SYNTAX, ARDROSSAN, JOHN BULL, NEWMINSTER, AND OLD PORT.

BEESWING (1833)	Doctor Syntax (1811)	Paynator (1791)	Trumpator	Conductor, 6
				Brunette, 62
			Daughter of	Mark Anthony, 5
				Signora, 93
		Daughter of	Beningbrough (1791)	King Fergus, 17
				Herod Mare, 17
			Jenny Mole	Carbuncle
				Prince T'Quassaw M.
	Daughter of	Ardrossan (1809)	John Bull (1789)	Fortitude, 98
				Xantippe (*Sister to Alexander*, 75)
			Miss Whip (1793)	Volunteer, 8
				Wimbledon
		Lady Eliza (1813)	Whitworth (1805)	Agonistes
				Jupiter Mare
			X Y Z's Dam	Spadille, 81
				Sylvia, by Y. Marske

(91) SYLPHINE.

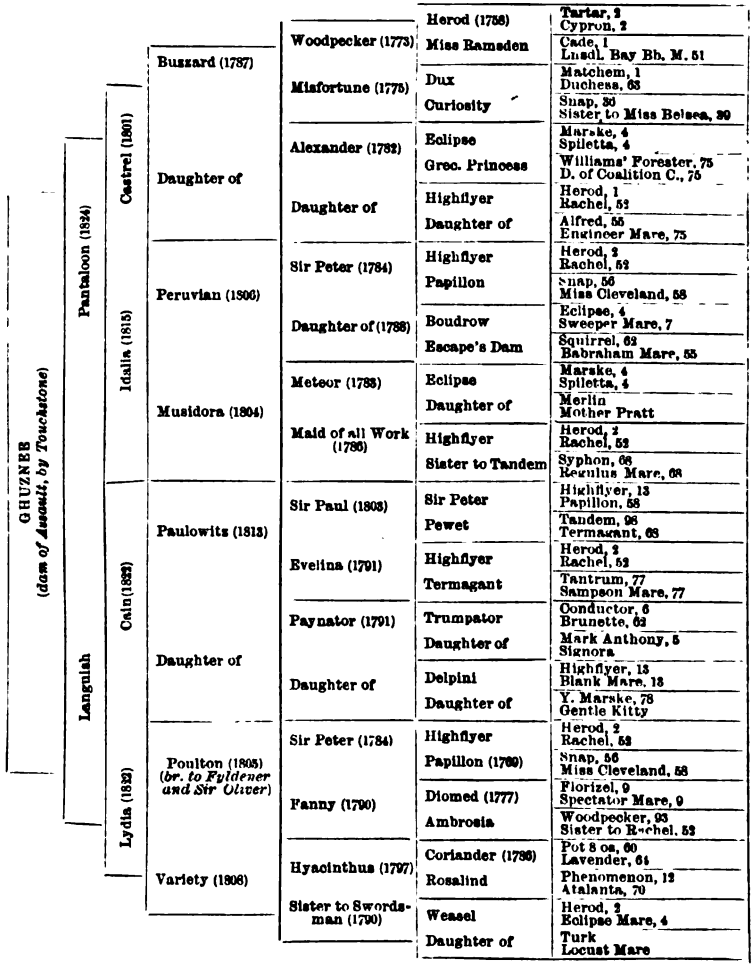
SYLPHINE	Touchstone	Camel, 98		
		Banter, 98		
	Mountain Sylph (1837)	Belshazzar	Blacklock, 23	
			Manuella	Dick Andrews, 23
				Mandane, 21
		Stays (1831)	Whalebone, 98	
			Daughter of	Frolic, by Hedley
				Camel's Dam, 98

(92) LUCETTA (*dam of Phlegon, by Sultan or Beiram*), REVELLER, HEDLEY, &c.

LUCETTA (1836)	Reveller (1815)	Comus (1809)	Sorcerer, 28
			Houghton Lass, 28
		Rosette	Beningbrough, 17
			Tandem Mare, 68
	Lass (1817)	Hedley	Gohanna, 22
			Catherine, 22
		Jessy (1809)	Totteridge
			Highflyer Mare

(93) GHUZNEE (1838),

PANTALOON, CAIN, PERUVIAN, PAULOWITZ, POULTON, &c.



(94) CYPRIAN

(*Dam of Joe Lovel, by Velocipede; of Songstress, by Birdcatcher; of Meteora, by Melbourne and of Cypriana, by Epirus*).

- CYPRIAN (1833)
  - Partisan (1811)
    - Walton
      - Sir Peter, 58
      - Arethusa, 80
    - Parasol
      - Pot 8 os, 60
      - Prunella, 69
  - Frailty (1821)
    - Filho da Puta (1812)
      - Haphazard, 79
      - Mrs. Barnet, 98
    - Agatha (1814)
      - Orville, 17
      - Star Mare

(95) CRUCIFIX (1837)

(*Dam of Surplice, Pontifex, Rosary, and Cardinal, by Touchstone; of Cowl, by Bay Middleton; of Crozier, by Lanercost; of Constantine, by Cotherstone; and of Chalice, by Orlando*).

- CRUCIFIX
  - Priam, 21
  - Octaviana
    - Octavian (1807)
      - Stripling (1795)
        - Phenomenon, 12
        - Laura, by Eclipse
      - Daughter of
        - Oberon, 18
        - Sister to Sharper, 28
    - Daughter of (1807)
      - Shuttle
        - Y. Marske, 78
        - Vauxhall Snap M.
      - Zara (1801)
        - Delpini, 13
        - Flora, 18

(96) EMPRESS (1837) (*dam of Autocrat, by Bay Middleton*).

- EMPRESS
  - Emilius
    - Orville
      - Beninbrough, 17
      - Evelina, 77
    - Emily
      - Stamford, 17
      - Whiskey Mare, 17
  - Mangel Wurzel
    - Merlin (1815)
      - Castrel, 95
      - Miss Newton, by Delpini
    - Morel
      - Sorcerer, 28
      - Hornby Lass, by Buzzard

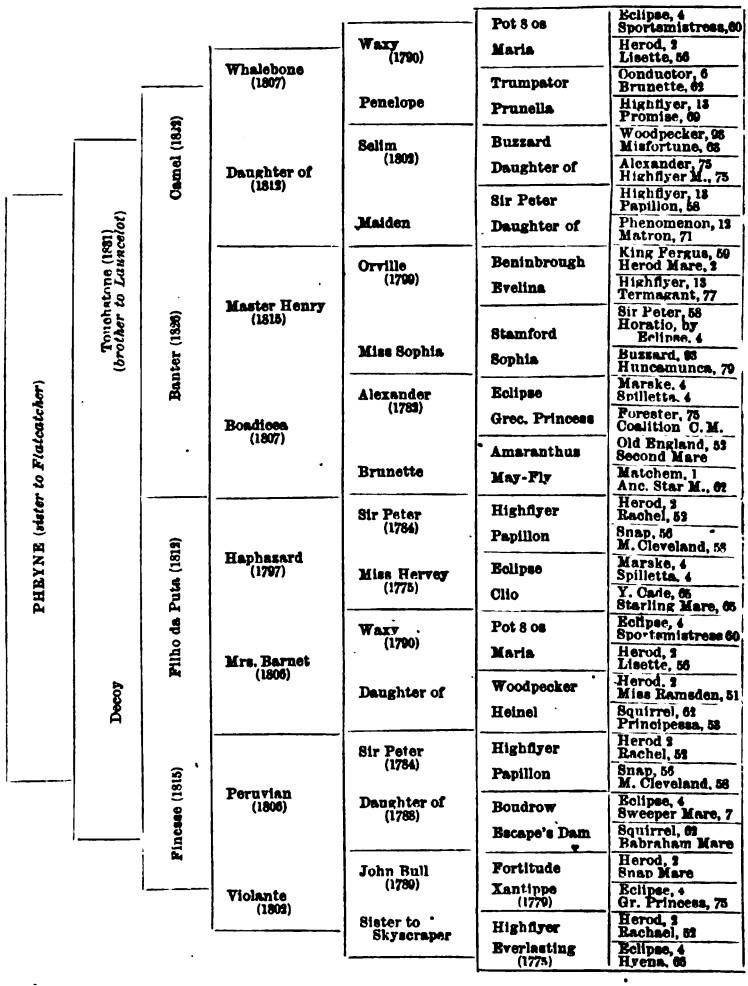
(97) ALICE HAWTHORN (1838)

(*Dam of Oulston, by Melbourne; Thormanby, by Windham*).

ALICE HAWTHORN.	Muley Moloch	Muley	Orville	Beninbrough, 26 Evelina, 26
			Eleanor	Whiskey, 26 Young Giantess, 26
		Nancy (1813)	Dick Andrews	Joe Andrews, 22 Highflyer Mare, 22
			Spitfire (1799)	Beninbrough, 26 Dr. of Y. Sir Peto
	Rebecca	Lottery	Tramp	Dick Andrews, 26 Gohanna Mare, 26
			Mandane	Pot 8 os, 26 Young Camilla, 27
		Daughter of	Cervantes	Don Quixote, 28 Evelina, 28
			Anticipation (1802)	Beninbrough, 26 Expectation, by Herod, 2

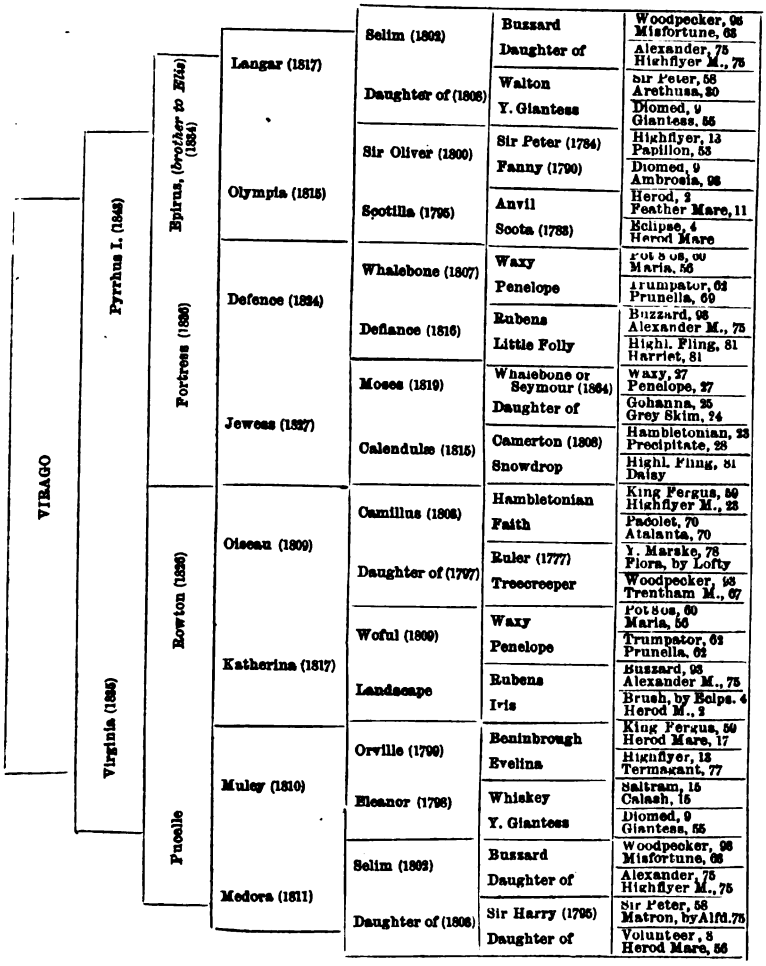
(98) PHRYNE (*dam of Elthiron, Windhound, Miserrima, Hobbie Noble, The Reiver, and Rambling Katie, by Pantaloon*),

DECOY, FLATCATCHER, CAMEL, FILHO DA PUTA, TOUCHSTONE, LAUNCELOT, AND MASTER HENRY.

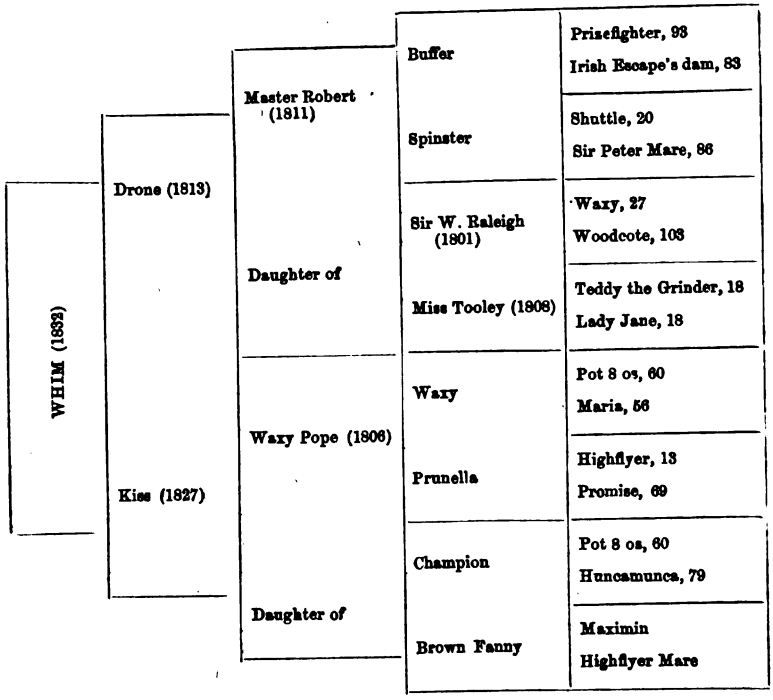


(99) VIRAGO (1851),

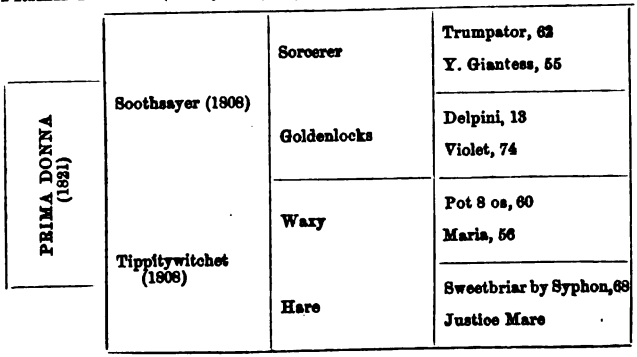
PYRRHUS I., EPIRUS, ELIS, LANGAR, ROWTON, MULEY.



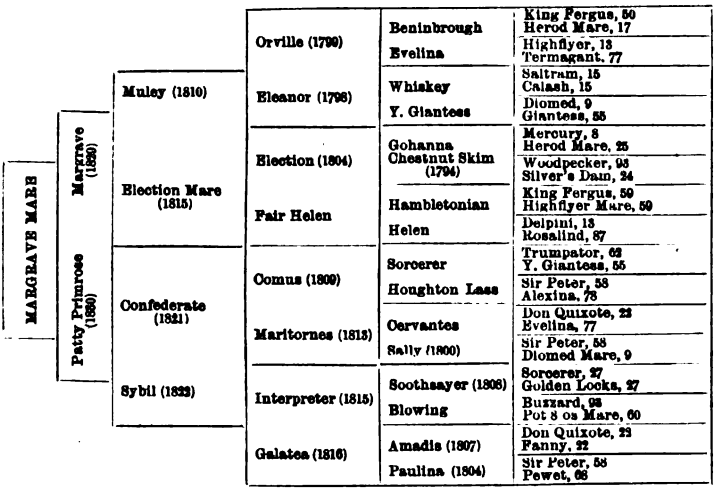
(100) WHIM (*dam of Chanticleer by Birdcatcher*), DRONE, WAXY POPE, MASTER ROBERT, AND BUFFER.



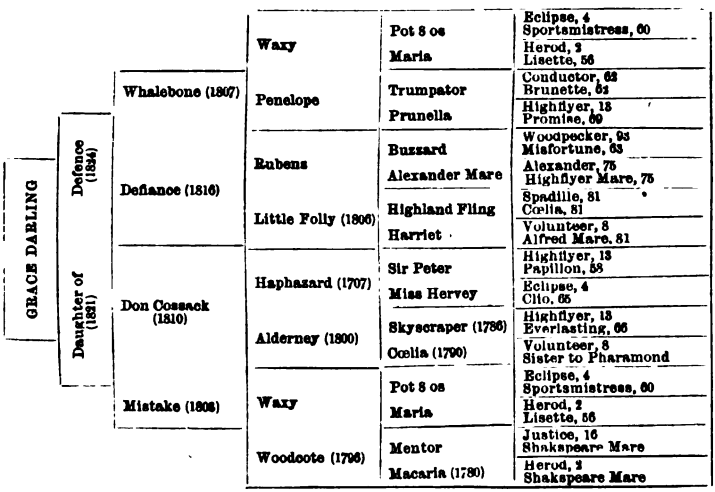
(101) PRIMA DONNA (*dam of Drayton, by Muley*), DRAYTON, TIPPITYWITCHET.



(102) MARGRAVE MARE (1836)—*dam of Sir Tatton Sykes* (1843), *by Melbourne.*



(103) GRACE DARLING (1834)—*dam of Hero* (1843), *by Chesterfield* (1834).



(104) RUBY (1825) (*dam of Coronation, by Sir Hercules*).

RUBY { Rubens, 27 / Daughter of { Williamson's Ditto, 16 / Agnes (1805) { Shuttle, 20 / Highflyer Mare { Highflyer, 13 / Daughter of { Goldfinder, 82 / Lady Bolinbroke

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(105) EQUATION (*dam of Drophantus, by Orlando*).

EQUATION { Emilius, 17 / Maria, 56

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(106) RUFINA (*sister to Velocipede, and dam of Ratcatcher, by Langar*).

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(107) LOUISA (*dam of Jerry, by Smolensko*).

LOUISA (1813) { Orville, 17 / Thomasina { Timothy, by Delpini / Violet, by Shark, 74

---

(108) VAT (*dam of Vatican, by Venison, and Windfull, by Fitz-Orville*).

VAT (1826) { Langar, 99 / Wire (*sister to Whalebone*), 98

---

(109) IOLE (*dam of Idleboy, by Harkaway*).

IOLE (1839) { Sir Hercules, 29 / Cardinal Cape (1822) { Sultan, 27 / Dulcinea { Cervantes, 28 / Regina (1800) { Moorcock, by Highflyer / Rally, 28

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(110) HESTER (*dam of Chatham, by the Colonel*).

HESTER (1832) { Camel, 98 / Monimia (1821) { Muley, 26 / Sister to Petworth, by Precipitate

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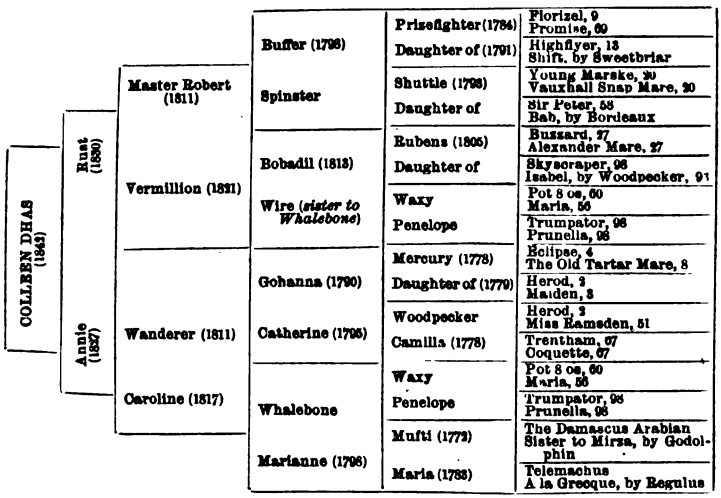
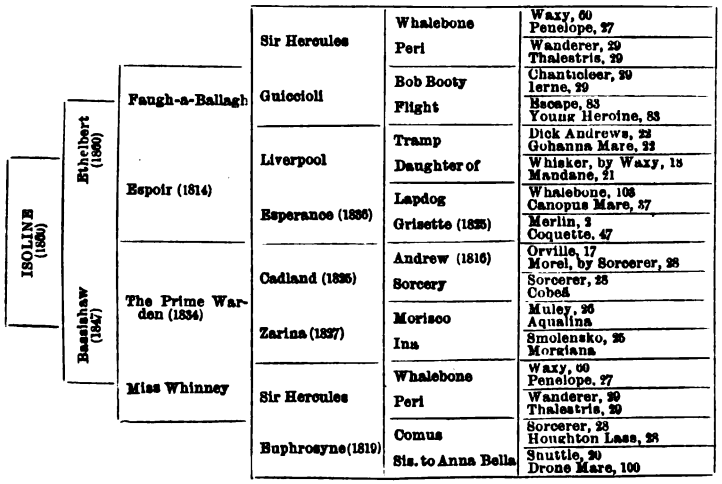
(111) TAGLIONI (1827) (*dam of Retriever and Pride of Kildare, by Recovery, son of Emilius; of Tearaway, by Voltaire; of Fireaway, by Freney; of Clear-the-way and Danceaway, by Harkaway*).

TAGLIONI (1836) { Whisker, 18 / Daughter of { Catton, 22 / Daughter of { Paynator, 93 / Violet, by Shark, 74

(112) COLLEEN DHAS (1842), (*dam of Vanquisher by Voltigeur*).

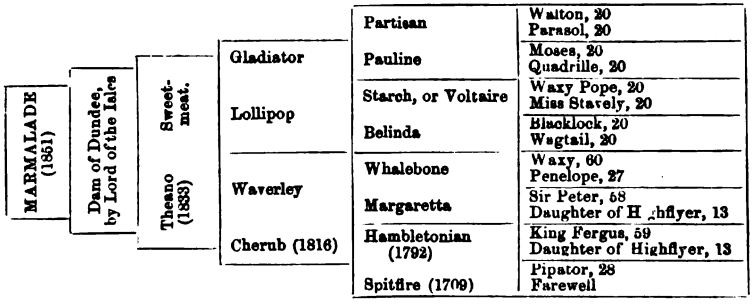


(113) ISOLINE (1860),
ETHELBERT, ESPOIR, ESPERANCE, BASSISHAW, &c.



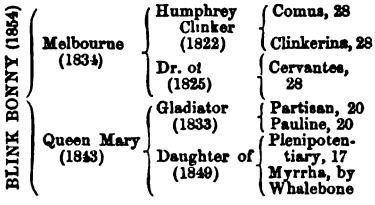
(114) **MARMALADE (1851),**

(Dam of Dundee by Lord of the Isles, Sweetmeat, Theano, Cherub, &c.)



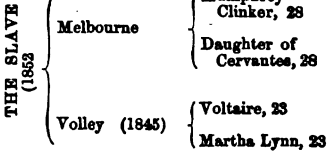
(115) **BLINK BONNY (1854),**

(Dam of Borealis by Newminster, and of Blair Athol, and Breadalbane by Stockwell).



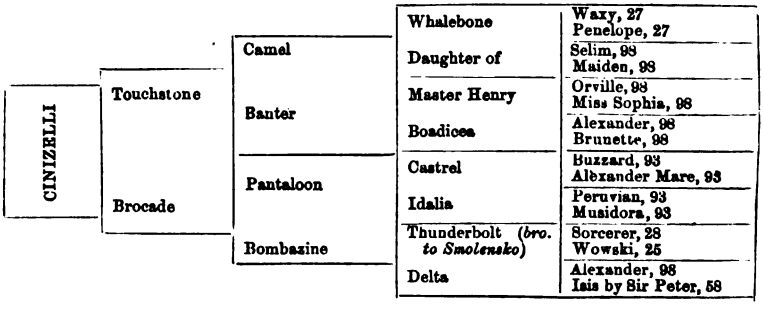
(116) **THE SLAVE (1852)**

(Dam of Lord Clifden by Newminster).



(117) **CINIZELLI (1842),**

(Dam of the Peer, by Melbourne, and of the Marquis, by Stockwell).



(118) TEETOTUM (1845) (*dam of Asteroid, by Stockwell*).

TEETOTUM	Touchstone	Camel	Whalebone	Waxy, 27 Penelope, 27
			Daughter of	Selim, 98 Maiden, 98
		Banter	Master Henry	Orville, 98 Miss Sophia, 98
			Boadicea	Alexander, 98 Brunette, 98
	Versatility	Blacklock	Whitelock	Hambletonian, 23 Rosalind, 23
			Daughter of	Coriander, 23 Wildgoose, 23
		Arabella	Williamson's Ditto	Sir Peter, 58 Arethusa, 80
			Esther	Shuttle, 20 Drone Mare, 100

(119) THE ARROW (1850) (*dam of Cambuscan, by Newminster*).

THE ARROW (1850) { Southdown, 19 / Slane 25

(120) ALMA (1853) (*dam of Historian, by Stockwell*).

ALMA	Gameboy (1842)	Tomboy (1829)	Jerry (1821)	Smolensko (1810)	Sorcerer, 28 Wowski, 25
				Louisa (1813)	Orville, 17 Thomasina
			Daughter of (1817)	Ardrossan (1809)	John Bull, 90 Miss Whip, 90
				Lady Eliza (1813)	Whitworth, 90 Spadille Mare, 90
		Lady Moore Carew (1830)	Tramp (1810)	Dick Andrews (1797)	Joe Andrews, 22 Highflyer Mare, 22
				Daughter of	Gohanna, 22 Fraxinella, 22
			Kite (1821)	Bustard (1813)	Castrel, 24 Miss Hap, 24
				Olympia (1815)	Sir Oliver, 24 Scotilla, 24
	Maria (1833)	Sir Hercules (1826)	Whalebone	Waxy	Pot 8 os, 27 Maria, 27
				Penelope (1798)	Trumpator, 103 Prunella, 103
			Peri (1822)	Wanderer (1811)	Gohanna, 29 Catherine, 29
				Thalestris (1809)	Alexander, 29 Rival, 29
		Pleiad (1817)	Bob Booty (1804)	Chanticleer	Woodpecker, 16 Eclipse Mare, 16
				Ierne	Bagot, 16 Gamahoe Mare, 16
			The Huntsman's Mare (1816)	Waxy Pope (1806)	Waxy, 27 Prunella, 69
				Lady Sarah (1808)	Champion, 125 Leitrim Clib

(121) THE BLOOMER (1850)
(Dam of Penrith, by Verulam, Taunton by Lord Garan and of Ely by Kingston, Lady Sarah, &c.)

- THE BLOOMER
  - Melbourne
    - H. Clinker, 28
    - Daughter of Cervantes, 28
  - Lady Sarah
    - Velocipede, 87
    - Lady M. Carew 120

(122) APHRODITE
(Dam of Argonaut, by Stockwell).

- APHRODITE
  - Bay Middleton
    - Sultan
      - Selim, 27
      - Bacchante, 27
    - Cobweb
      - Phantom, 27
      - Filagree, 27
  - Venus
    - Sir Hercules
      - Whalebone, 103
      - Peri, 29
    - Echo
      - Emilius, 17
      - Daughter of Scud or Pioneer

(123) HYBLA
(Dam of Mincemeat, by Sweetmeat and Kettledrum, by Ratiplan.)

- HYBLA
  - The Provost
    - The Saddler, 31
    - Rebecca, 97
  - Otisina (sis. to Lanercost)
    - Liverpool, 22
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(124) THE QUEEN
(Dam of Dictator, by the Cure).

- THE QUEEN
  - Iago
    - Plenipotentiary, 17
    - Daughter of Muley, 26
  - Duchess of Kent
    - Belshazzar, 91
    - Pepper, by St. Nicholas, Daughter of Acklam Lass, by Prime Minister

(125) BURLESQUE
(Dam of Buckstone, by Van Galen).

- BURLESQUE
  - Touchstone
    - Camel
      - Whalebone, 103
      - Daughter of Selim, 27
    - Banter
      - Master Henry, 98
      - Boadicea, 98
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- LA TOUCQUES
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(127) QUEEN BERTHA.

- QUEEN BERTHA
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      - Slane, 25
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CHAPTER III.

THE POWERS AND USES OF THE MODERN RACEHORSE.

SECT. 1.—PRESENT SPEED OF THE RACE-HORSE.

BY an examination of the racing time-tables as recorded of late years, it will be seen that from 13½ to 14 seconds per furlong is the highest rate of speed attained in any of our races, above a mile, and with 8st. 7lbs. carried by three-year-old horses. In 1848, Surplice and Cymbia won the Derby and Oaks, each running the distance in 2 minutes and 48 seconds, or exactly 14 seconds per furlong. This rate has never since that time been reached; Lord Zetland's Voltigeur having, however, nearly attained it, but failing by two seconds—making his rate 14 seconds and one-sixth per furlong. But the most extraordinary three-year-old performance is that of Sir Tatton Sykes over the St. Leger course, 1 mile 6 furlongs and 132 yards in length, which he ran in 3 minutes and 16 seconds, or at a rate of as nearly as possible 13¼ seconds per furlong, whereas the celebrated Blink Bonny's time was 13¾ seconds per furlong over the Derby course, which, however, is very hilly, while Doncaster is nearly a dead level. With an additional year and the same weight, this speed has been slightly exceeded by West Australian, even over a longer and far more hilly course, as at Ascot in 1854, when he defeated Kingston by a head only; running 2 miles and 4 furlongs in 4 minutes and 27 seconds, or as nearly as possible at the rate of 13 seconds and one-third per furlong. This performance is the best in modern days, considering the weight, the age, and the distance; and it will compare very favourably with the often quoted exploit of Childers over the Round course in 1721, when, being six years old, he beat Almanzor and Brown Betty, carrying 9st. 2lbs., and doing the distance in 6 minutes and 40 seconds, or at the rate of 14 seconds and one-third per furlong. Thus, allowing him his year for the extra ¼ mile in the course and for the 2lbs. which he carried above Kingston's weight, he was outdone by the latter horse at Ascot by 1 second per furlong, and likewise by West Australian, at the usual allowance for his age. Again, comparing these performances on the English turf with the recently lauded exploits of the American horses, it will be found that there is no cause for the fear lest our antagonists in the "go-ahead" department should deprive us of our laurels. On the 2nd of April, 1855, a time-match was run at New Orleans between Lecomte and Lexington, both four years old, in which the latter, who won, did the four miles (carrying 7st. 5lbs.) in 7 minutes 19¾ seconds, or, as nearly as may be, 13¾ seconds per furlong. This is considered by the Americans the best time on record, and is undoubtedly a creditable performance; though when the light weight is taken into account, not so near our best English time as would at first sight appear. On the 14th of April. Brown Dick and Arrow ran 3 miles over the same course in 5 minutes 28 seconds, or at the rate of 13 seconds and two-thirds per furlong; the former a three-year-old, carrying 6st. 2lbs., and the latter five years old, 7st. 12lbs. Thus it will appear, that Kingston, of the same age as Arrow, and carrying 9st. instead of 7st. 12lbs., ran 2¼ miles at a better rate than Arrow did his 3 miles by one-third of a second per furlong; and it has been shown that in the year last past two horses exceeded the greatest performance of the olden times by a second per furlong, and beat the best American time of modern days by one-third of a second per mile. The assertion, therefore, that our present horses are degenerated in their power of staying a distance under weight is wholly without foundation, since I have shown that even taking the time of the Childers' performance as the true rate, of which there is some doubt, yet it has recently been beaten very considerably by West Australian and Kingston. Many loose assertions have been made as to the rate of the horse for a single mile in the last century, but there is not the slightest reliance to be placed upon them. That any racehorse ever ran a mile within the minute is an absurd fiction; and it is out of the question to suppose, that if Childers could not beat our modern horses over the Beacon course, he could beat them a shorter distance. Stoutness was undoubtedly the *forte* of the early racehorses; they were of small size, very wiry and low, and could unquestionably stay a distance, and could race month after month, and year after year, in a way seldom imitated in these days; but that they could in their small compact forms run as fast in a short spin

as our modern three-year-olds is quite a fallacy, and no racing man of any experience would admit it for a moment.

THE SIZE AND SHAPE of the modern thorough-bred horse are superior to those of olden days, if we may judge by the portraits of them handed down to us by Stubbs, who was by far the most faithful animal painter of the eighteenth century. In elegance of shape we beat the horses of that day very considerably, more especially in the beauty of the head and the formation of the shoulders, which have been much attended to by breeders. In size, also, there has been an immense stride made, the average height of the racehorse having been increased by at least a hand within the last century. This enlargement is, I believe, chiefly due to the Godolphin Arabian, who was the sire of Babraham, the only horse of his time which reached 16 hands, and sire or grandsire of several which were more than 15 hands, much above the average height of horses at that time—as, for instance, Fearnought, Genius, Gower Stallion, Infant, Denmark, Bolton, Cade, Chub, Lofty, and Amphion. Indeed, it will be found, by an examination of the horses of that time, that out of 130 winners in the middle of the eighteenth century, there were only 18 of the height of 15 hands and upwards, of which 11 were by Godolphin or his sons, three descended from the Darley Arabian, two from the Byerley Turk, and two from other sources. It may, therefore, be assumed, with some degree of probability, that the increase in size is in great measure due to the Godolphin, in addition to the extra care and attention which the horse has received during the same time. Nevertheless, all the care and forcing in the world will not increase the size of some breeds; and unless there was this capability of being forced, no amount of attention would have brought the horse to the present average, which may be placed at about 15 hands 3 inches.

SECT. 2.—EARLY MATURITY INCOMPATIBLE WITH DURABILITY.

THE LAWS REGULATING GROWTH AND DECAY are immutable, and it may almost always be pronounced, that in proportion to the quickness of the growth will be the early decay of the animal or vegetable being. Thus, the oak is more lasting than the larch, and the elephant outlives the horse; and so it will be found that, whether in the case of the greyhound, the horse, the sheep, or the bullock, those animals which come to maturity the earliest are the first to decay, or to show signs of that stage; for in a state of domestication actual decay is rarely permitted to take place; hence, while the breeder has his attention drawn to the production of colts which shall at two years of age be formed like old horses, and be fit to compete with them for short distances, it will always result that he attains his end at a considerable sacrifice of durability, as evidenced in the diminished strength of constitution, and the feeble and yielding nature of the organs of locomotion. The timber, in fact, instead of being oak is deal, and is as little to be compared in durability with the materials of which the old-fashioned horses were composed, as the latter timber is with the former. It is true that some exceptions may be adduced even in these days, which seem made of as iron-like materials as Eclipse or Childers, or their contemporaries — as, for instance, Rataplan, who ran in 71 races during the four years he was on the turf; Fisherman, who was pulled out 120 times in five years; and Thormanby, who ran 15 times as a two-year old, and was as sound as a roach when he won the Derby. Still these are the exceptions, and the vast majority of our horses are unable to put in an appearance on the race-course more than eight or ten times in the course of the season, and many not nearly so often. Both Childers and Eclipse were five years old before they were trained, and such was the usual practice in those days. As an instance of this, Miss Neesham was foaled in 1720, was first started for the King's Plate at York, in 1726, and continued to run every year till 1731, when she was used for two seasons for breeding purposes, and produced Miss Patty. In 1733, Miss Neesham, now called Mother Neesham, won a plate at York; and again, in 1734, she won two stakes at the same place, being in her fourteenth year. Such a case is unknown in these days; and even an eight-year-old running horse is a rarity seldom met with. Beeswing, it is true, ran and won good stakes in her ninth year, but she was a *rara avis* indeed, and we may wait some time before we look upon her like again, though the Brewer and Real Jam have in these days persevered almost as long.

RACEHORSES ARE NOT, however, to be considered as really degenerated, simply because they are of earlier maturity than was formerly the case, but they are no doubt altered in character by the long-continued attention to the production of this peculiarity. The type of the racehorse is now more nearly allied to the two-year-old form, and he has become more speedy, but

less lasting *in proportion to his speed.* This is easily understood, because it is impossible that a horse can maintain a high velocity for as long a time or distance as he can keep up a slower rate of gallop. I have shown that he can, and does now perform the same distance in a less time than Childers, but that he can keep up his *top speed* as long as the old-fashioned horses, is, I believe, untrue. A very slow horse can maintain the only rate which he can manage to reach for a long time, as compared with the fast horse; and he may safely be kept extended for the whole distance he has to go, unless this is a very long one—that is to say, if his temper is good enough to bear the trial; but the fast horse will soon burst himself if allowed or made to extend himself for any distance, and he therefore must be husbanded in some degree, for fear of the consequences. This is often exemplified in the steeplechase, wherein many stayers on the turf like Emblem are as stout as steel over four miles, because they are not extended till near the end of that distance. But not only is there this two-year-old type in speed, but there is also the two-year-old condition of bone and sinew; and in addition there is the early trial of both in the severe training to which the young horse is now submitted. Thus all things tend to the production of unsound and soft-constitutioned animals, and it cannot occasion surprise if the per centage of lameness, or other infirmity, is greatly increased. It is quite true that our hunters and other horses are also earlier in coming to their full growth, and thus some advantage is gained, but I am afraid more than counterbalanced by their early decay, and by the want of durability, which their legs and feet show, as evidenced by the frequency of inflamed joints and diseased feet, now so prevalent in the field and on the road. Thus, what is gained between three and five years of age, is lost between ten and fifteen, and I am afraid more than lost, for undoubtedly a greater number must be bred to last a given number of years than was formerly necessary, whether for hunters, roadsters, or harness-work. Still, as I said before, the alteration is not entirely for the worse, and the earlier utility of the horse is some little set-off against his premature decay.

THE GRAND DESIDERATUM in these days is the production of a set of thorough-bred horses calculated to get good sound roadsters and hunters. Now this is quite incompatible with the present system of breeding for the two-year-old market, and yet while prizes, often amounting to some thousands, are within the probable reach of our best two-year-olds, it is scarcely to be expected that they shall be kept from grasping them. As, therefore, it is unlikely that the public will individually produce these much-needed horses, it is incumbent upon the government either to establish a breeding-establishment for their manufacture, or else to offer prizes of some kind which may tempt the breeder to produce them. One or the other must be done, if the horse is to be restored to its former condition of hardihood of constitution, and durability of leg, qualities which are now lamentably deficient in all our breeds of modern horses.

ALTHOUGH THE THOROUGH-BRED HORSE is well fitted to compete with others in all cases where speed is the chief point of trial—as in flat-racing, steeple-chasing, hunting, &c.—yet he is not so well qualified for some kinds of harness-work, or for road-work of any kind, as the horse expressly bred for that purpose. There is no doubt that thorough-bred horses *might* be selected and bred expressly for this kind of work, and would excel all others, because originally their limbs and constitutions were at least as sound as, or perhaps even sounder, than any other class of horses; but while they are selected and bred solely for speed, without much reference to these other qualities, it is useless to expect much improvement in the latter; but, on the contrary, they may be expected to become yearly more and more soft and yielding. For many purposes the Eastern horse is wholly unfit—as, for instance, for heavy and dead pulls; here his high courage, light weight, and hasty temper are adverse to the performance of the task, and he is far excelled by the old English, or modern improved cart-horse. No thorough-bred horse would try again and again at a dead pull like many of our best breeds of cart-horses; and therefore he is little calculated for work which requires this slow struggling kind of exertion. The pull of the Eastern horse, or his descendant, is a snatch; and though it may to a certain extent be modified by use, yet it can never be brought up to the standard of the English cart-horse, even if his weight of carcase and size and strength of limb could be sufficiently increased.

IT HAS THUS BEEN SHOWN that the English race-horse, as now bred, is solely useful in improving the breeds of our hunters and light road-horses; and that he, from his early maturity and decay, is to a certain extent prejudicial to the improvement of their lasting powers, in enduring the

battering of our roads, which are now yearly becoming harder and harder, and thus more trying to the legs and feet. That he has been the means, however, of improving these breeds in all other respects is clear enough; and we now possess horses which are perfect in every other respect, being excellent hacks, hunters, and light carriage horses, and often all in one. This is the perfection of the horse; and if many such could be produced it would be a great advantage, because most people would like a horse which could "make himself generally useful," if such an animal could be obtained. Without high-breeding, however, this is impossible; and yet with most of our purest strains, though it is attainable, the condition in which it exists does not last long, in consequence of the effect of the hard road upon their soft legs and contracted feet. Consequently, as I have already remarked, there is a necessity for Government interference to produce such a breed of thorough-bred horses, by careful selection, as shall give us the above three kinds of horses useful in civil life, from which may be culled a plentiful supply of cavalry horses, whenever wanted; because the very same qualities are there demanded, and what will suit the one will be equally advantageous to the other, and this is demonstrated more clearly than ever by the recent successes of the French horses, dependent as they no doubt are upon the careful selection of sound stock to breed from by the French Government and private breeders.

Sect. 3—Thorough-bred Horse as Intended for Racing only.

But in Addition to the use of the thorough-bred horse for the purpose of improving our general stock of horses, he is incidentally employed in a pursuit which in itself is of no use to the nation or to individuals, but is carried on partly as a pastime, but too often now as a trade. As, however, this is the only motive for the encouragement of this variety of the horse, which is extremely useful in improving those breeds that are vitally necessary to our existence and comfort, the evil must be borne for the sake of the accompanying good; and we must be thankful to those who lay out large sums, from whatever motive, in producing those splendid specimens of the horse which are yearly brought to the post. That they are not perhaps the best possible for the purpose of breeding what is otherwise wanted I have already shown; but until the Government take the matter up, and give us still more perfect animals, we must be satisfied with what we can get, and be content to praise the bridge which carries us safe over, even if it is not made of the very best heart of oak.

CHAPTER IV.

ESSENTIAL POINTS IN THE THOROUGH-BRED HORSE FOR RACING PURPOSES.

Sect. 1.—Purity of Blood.

Purity of Blood is a *sine qud non* for racing purposes, but it is necessary to understand what is meant by the term "blood." It is not to be supposed that there is any real difference between the blood of the thorough-bred horse and that of the half-bred animal; no one could discriminate between the two by any known means; the term "blood" is here synonymous with *breed*, and by purity of blood we mean purity in the breeding of the individual animal under consideration; that is to say, that the horse which is entirely bred from one source is pure from any mixture with others, and may be a pure Suffolk Punch, or a pure Clydesdale, or a pure thorough-bred horse. But all these terms are comparative, since there is no such animal as a perfectly purely bred horse of any breed, whether cart-horse, hack or race-horse; all have been produced from an admixture with other breeds, and though *now* kept as pure as possible, yet they were originally compounded from varying elements. Even the best and purest thorough-breds are stained with some slight imperfections, and therefore it is only by comparison that the word pure is applicable to them or any others. But since the thorough-bred horse, as he is called, has long been bred for racing purposes, and selections have been made with that view alone, it is reasonable to suppose that this breed is the best for that purpose, and that a strain of any other is a deviation from the clearest stream into one more muddy, and therefore impure; the conse-

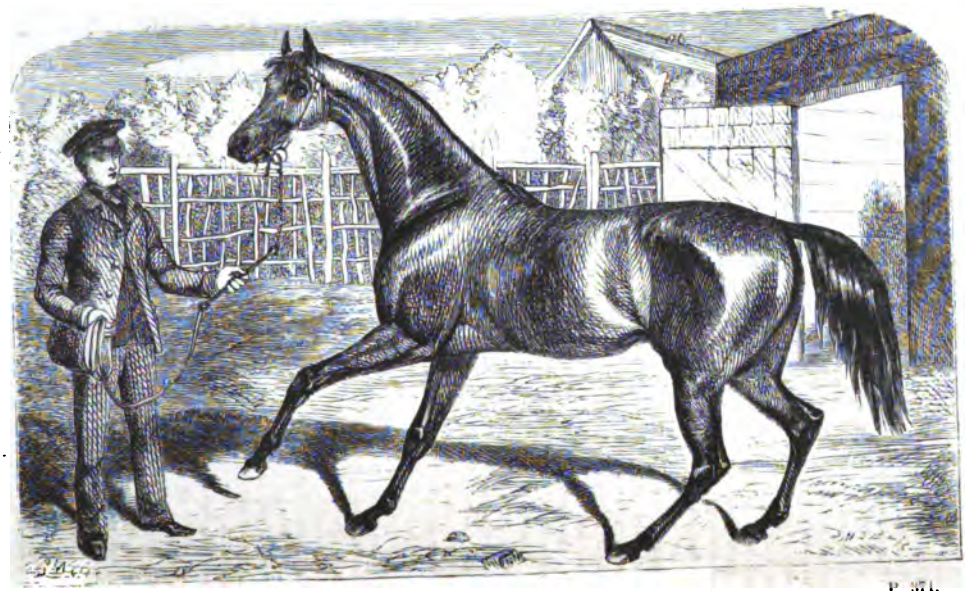
quence is, that the animal bred from the impure source fails in some of the essential characteristics of the pure breed, and is in so far useless for this particular object. Now, in practice this is found to be the case, for in every instance it has resulted that the horse bred with the slightest deviation from the sources indicated by the stud-book, is unable to compete in lasting power with those which are entirely of that breed. Hence it is established as a rule, that for racing purposes every horse must be thorough-bred; that is, as I have already explained, of a sire and dam whose names are met with in the stud-book.

Sect. 2.—External Form.

The External Form of the racehorse is of great importance; but there is no doubt that the axiom is correct, "that the horse can run in all forms." The instances where this is so, however, are the exceptional cases, and the rule, nevertheless, is a good one, which lays down that, *cæteris paribus*, the horse will be the best runner which is formed in the mould most like that of the greatest number of good racehorses. Thus, supposing it is found that out of fifty good horses forty-nine have neat heads, light necks, deep chests, oblique shoulders, long racing hind-quarters, strong hocks, &c., the presumption will be that a horse resembling those forty-nine in shape will also resemble them in speed and endurance. On the other hand, it is admitted on the turf that high-breeding is of more consequence than external shape, and that of two horses, one perfect in shape, but of an inferior strain of blood, and the other of the most winning blood, but not so well formed in shape, the latter will be the most likely to perform to the satisfaction of his master on the race-course. On this principle the proverb has been framed and handed down to us, that "an ounce of blood is worth a pound of bone," and with the above explanation such is really the case. But in spite of all this recognised superiority of blood, it is indisputable that for the highest degree of success there must be not only high purity of blood, and that of the most winning strains, but there must also be a frame of the most useful character, if not always of the most elegant form. Many of our very best horses have been plain, and even coarse-looking—as, for instance, most of the Melbournes, and especially that very fast horse, Sir Tatton Sykes, and also Voltigeur and other descendants of Blacklock; but in spite of their plainness, all the points are good and useful, and the deficiency is in elegance, not in real utility. Nothing can exceed the goodness of the frames of Melbourne's stock, and their width of hip and general roominess of make is such as to give them enormous power and great substance of muscle, which is particularly serviceable in the fillies got by him, a class of animals more often deficient in these points than colts. From this it results that the distinction must always be made between elegance and utility; and it must be remembered, that while the former pleases the eye, it is not really conducive to victory; whilst, on the other hand, the ragged hips and general bony frames of some horses are not so elegant to the eye but they give strong attachment to the moving powers, and also allow the muscular system to be largely developed on their foundation. The following are the generally admitted good points by which the racehorse of high caste is distinguished from the common herd.

The Height of the racehorse varies from 15 hands to 16½ hands, or even 17 hands; but the general height of our best horses is about 15 hands 3 inches. Few first-class performers have exceeded the height of Surplice, who is 16 hands 1 inch, as are also Wild Dayrell, and Stockwell. Sir Tatton Sykes was 15½ hands; and between his height and that of Surplice may be ranged every great winner for the last ten or twelve years. This average, therefore, may fairly be laid down as the best height for the racehorse, though it cannot be denied that for some small and confined courses—as, for instance, that of Chester, a smaller horse of little more than 15 hands' height has a better chance, as being more capable of turning round the constantly recurring angles or bends.

The Head and Neck should be characterized by *lightness*, which is essential for this department. Whatever is unnecessary is so much dead weight, and we know the effect of 7 lbs. in impeding the horse over a distance of ground. Now, 7 lbs. are easily bestowed upon a neck which may differ in at least 20 or 30 lbs. between the two extremes of lightness and excessive weight. Thus, it may be considered as indubitable that whatever is met with in the head and neck, which is not necessary for the peculiar purposes of the racehorse, is so much weight thrown away, and yet it must be carried by the horse. Such is the general character of this part; but in detail the Head should be lean about the jaw, yet with a full development of forehead, which should be convex and wide, so as to contain



PORTRAIT OF KINGSTON, BY VENISON, OUT OF QUEEN ANNE.

within the skull a good volume of brain. Supposing this fulness to exist, all the rest of the head may be as fine as possible; the jaws being reduced to a fine muzzle, with a slight hollowing out in front, but with a width between the two sides of the lower jaw where it joins the neck, so as to allow plenty of room for the top of the windpipe when the neck is bent. The ears should be pricked and fine, but not too short; eyes full and spirited; nostrils large, and capable of being well dilated when at full speed, which is easily tested by the gallop, after which they ought to stand out firmly, and so as to show the internal lining fully. The NECK should be muscular, and yet light; the windpipe loose and separate from the neck—that is, not too tightly bound down by the *fascia*, or membrane of the neck. The crest should be thin and wiry, not thick and loaded, as is often seen in coarse stallions, or even in some mares. Between the two extremes of the ewe-neck and its opposite there are many degrees, but for racing purposes I should prefer, of the two, the former to the latter; for few horses can go well with their necks bent so as to draw the chin to the bosom; but here, as in most other cases, the happy medium is to be desired, which is that exhibited in the portrait of Kingston accompanying this article; though perhaps it is a little more loaded than is either desirable or belonging to the original. His head and general form are those which may be selected as the pattern for the racehorse, for though he was often considered as too light in the girth, he was, in my opinion, just what a racehorse should be in that department, which is more frequently too deep than the reverse; and his well-known stoutness verifies the opinion.

THE BODY, OR MIDDLE-PIECE, should be moderately long, and not too much confined between the last rib and the hip-bone. So long as the last or back-ribs are deep, it is not of so much importance that they should be closely connected to the hip-bone, for such a shape shortens the stride; and though it enables the horse to carry great weight, yet it prevents him from attaining a high rate of speed. The BACK itself should be muscular, and the hips so wide as to allow of a good development of the muscular department. The WITHERS may rise gently, but not too high, with that thin razor-like elevation which many people call a good shoulder, but which really has nothing to do with that part, and is only an annoyance to the saddler, in preventing its being pinched by the saddle.

The CHEST itself should be well developed but not too wide and deep; no horse can go a distance without a fair "bellows-room;" but, supposing the heart to be sound and of good quality, the amount of lung will suffice which may be contained in a medium-sized chest, and all above that is wasted, and is extra weight. Many of our best-winded horses have had medium-sized chests; and some of the very worst have been furnished with room enough for a pair of blacksmith's bellows to play in. If the heart only does its duty well, the lungs can always furnish sufficient air; and we know that when frequently renewed, and with sufficient power, the blood is aërated as fast as it is propelled, and the chief difficulty lies in this power of propulsion which resides in the heart alone. If the chest be too wide it materially affects the action of the fore-legs, and therefore in every point of view, theoretically and practically, there is a happy medium between the too great contraction in this department, and the heavy, wide lumbering chests sometimes seen even in the thoroughbred racehorse, especially when reared upon rich succulent herbage, more fitted for the bullock than the eastern horse. In the formation of the HIPS, the essential point is length and breadth of bone for muscular attachment, and it matters little whether the croup droops a little, or is pretty straight and level, so that there is a good length from the hip to the haunch-bone; the line between which two points may either be nearly horizontal, or forming a considerable angle with the ground; but still in both cases it should be a long line, and the longer it is the more muscular substance is attached to it, and the greater leverage will the muscles have. All these points are still further explained in the Anatomy of the Horse, which see for the details of those parts.

THE FORE QUARTER, consisting of the shoulder, upper and lower arm and leg and foot, should be well set on to the chest; and the shoulder-blade should lie obliquely on the side of that part, with a full development of muscle to move it, and thrust it well forward in the gallop. Obliquity is of the greatest importance, acting as a spring in taking off the shock of the gallop or leap, and also giving a longer attachment to the muscles, and in addition enabling them to act with more leverage upon the arm and leg. It will be seen, by a reference to the skeleton, that the shoulder-blade does not reach the top of the withers, and that those bones forming that part have nothing to do

with the shoulder itself; hence many high-withered horses have bad and weak shoulders, and some very upright ones; whilst, on the other hand, many low-withered horses have very oblique and powerful shoulders, and such as to give great facility and pliability to the fore extremity. The SHOULDER should be very muscular, without being overdone or loaded, and so formed as to play freely in the action of the horse. The point of the shoulder, which is the joint corresponding to the human shoulder, should be free from raggedness, but not too flat; a certain degree of development of the bony parts is desirable, but more than this leads to defect, and impedes the action of this important part. The UPPER ARM, between this joint and the elbow, should be long, and well clothed with muscles; the elbow set on quite straight, and not tied in to the chest; the LOWER ARM muscular and long; knees broad and strong, with the bony projection behind well developed; legs flat, and showing the suspensory ligament large and free; pasterns long enough, without being weak; and the feet sound, and neither too large nor too small, and unattended with any degree of contraction, which is the bane of the thorough-bred horse.

THE HIND-QUARTER is the chief agent in propulsion, and is therefore of the utmost consequence in attaining high speed. It is often asserted that the oblique shoulder is the grand requisite in this object, and that it is the part upon which speed mainly depends, and in which it may be said to reside. This is to some extent true, because there can be no doubt that with a loaded shoulder high speed is impracticable; for however powerfully the body may be propelled, yet when the fore-quarter touches the ground it does not bound off again as smartly as it ought to do, and the pace is consequently slow. This position may be illustrated by an experiment with two balls, one of india-rubber, and the other of corresponding size and weight, made of any inelastic material, such as wax. Now, suppose these two balls propelled with equal power along a piece of fine turf at such an angle as to strike its surface, and rebound again and again—the elastic ball would at first only equal the other in speed, but it would soon outstrip it, because its elasticity would carry on the original propelling power, while the dull, inelastic nature of the wax ball would speedily cause it to adhere to its mother earth. Just so with the elastic shoulder—it receives the resistance of the earth, but reacts upon it, and loses very little of the power given by the stroke of the hind-quarter, which, nevertheless, must be strong and quick, or else there is nothing for the shoulder to receive and transmit. For the full action of the hind-quarter two things are necessary, viz.:—first, length and volume of muscle; and secondly, length of leverage upon which that muscle may act. Hence, all the bones comprising the hind-quarter should be long, but the comparative length must vary a good deal, in order that the parts upon which the muscles lie may be long, rather than those connected with the tendons, which are mere ropes, and have no propelling power residing in them, but only transmit that which they derive from the muscles themselves. Thus, the HIPS should be long and wide, and the two upper divisions of the limb—viz., the STIFLE and LOWER THIGH should be long, strong, and fully developed. By this formation the stifle-joint is brought well forward, and there is a considerable angle between these two divisions. The HOCK should be bony and strong, free from gum or spavin, and the point long, and so set on as to be free from weakness at the situation of curb. In examining the hind-quarter to judge of its muscular development, the horse should not be looked at sideways, but his tail should be raised, and it should be ascertained that the muscles of the two limbs meet together below the *anus*, which should be in fact well supported by them, and not left loose, and, as it were, in a deep and flaccid hollow. The outline of the outer part of the thigh should be full, and in ordinary horses the muscle should swell out beyond the level of the point of the hip This fulness, however, is not often seen to this extent in the thorough-bred horse until he has arrived at mature age, and is taken out of training. The bones below the hock should be flat and free from adhesions; the ligaments and tendons fully developed, and standing out free from the bone; and the joints well formed and wide, yet without any diseased enlargement; the pasterns should be moderately long and oblique; the bones of good size; and lastly, the feet should correspond with those already alluded to in the anterior extremity.

THE TOTALITY of these points should be in proportion to one another—that is to say, the formation of the horse should be "true." He should not have long well developed hind-quarters, with an upright, weak, or confined fore-quarter. Nor will the converse serve, for however well formed the shoulder may be, the horse will not go well

unless he has a similar formation in the propellers. It is of great importance, therefore, that the racehorse should have all his various points in true relative development; and that there shall not be the hind-quarter of a long racing-like horse with the thick confined shoulder which would suit a stride less reaching in its nature.

SECT. 3.—THE COLOUR, SKIN, HAIR, &c.

THE COLOUR of the thorough-bred horse is now generally bay, brown, or chestnut, one or other of which will occur in ninety-nine cases out of a hundred. Grey is not common, but sometimes appears, as in the recent case of Chanticleer and some of his stock. Black also occasionally makes its appearance, but not more frequently than grey. Roans, duns, sorrels, &c., are now quite exploded, and the above five colours may be said to complete the list of colours seen on the race-course. Sometimes these colours are mixed with a good deal of white, in the shape of blazes on the face, or white legs and feet; or even both may occur, and the horse may have little more than his body of a brown, bay, or chestnut. Most people, however, prefer the self colour, with as little white as possible; and nothing but the great success of a horse's stock would induce breeders to resort to him if they were largely endowed with white. Grey hairs mixed in the coat, as in the Venison's, are rather approved of than otherwise; but they do not amount to a roan, in which the grey hairs equal, or even more than that, the other colour mixed with them.

THE TEXTURE of the coat and skin is a great proof of high breeding, and in the absence of the pedigree would be highly regarded; but when that is satisfactory it is of no use descending to the examination of an inferior proof; and, therefore, except as a *sign of health*, the skin is seldom considered. In all thorough-bred horses, however, it is thinner, and the hair more silky than in common breeds; and the veins are more apparent under the skin, partly from its thinness, but also from their extra size and number of branches. This network of veins is of importance in allowing the circulation to be carried on during high exertions, when, if the blood could not accumulate in them, it would often choke the deep vessels of the heart and lungs; but by collecting on the surface great relief is afforded, and the horse is able to maintain such a high and long continued speed as would be impracticable without their help. Hence, these points are not useful as a mere mark of breed, but as essential to the very purpose for which that breed was established.

THE MANE AND TAIL should be silky and not curly, though a slight wave is often seen. A decided curl is almost universally a mark of degradation, and shows a stain in the pedigree as clearly as any sign can do. Here, however, as in other cases, the clear tracing of that all-powerful proof of breeding will upset all reasoning founded upon inferior data. The setting on of the tail is often regarded as of great importance, but it is chiefly with reference to appearances; for the horse is not dependent for action or power upon this appendage. Nor is strength of dock of any value as a sign, and I have known many very stout horses with flaccid and loosely pendent tails.

SECT. 4.—VARIETIES IN FORM.

BETWEEN THE FORM of West Australian and that of a common country plate-horse there is a very wide difference, and scarcely any weight will bring them together short of that which would crush the former to the earth. There are numberless cases in which four stone might be carried by a first-class horse, over and above the feather-weight placed on a very slow horse, and yet the horse in high form will run away from the plater, who cannot by any means get over the ground faster than the rate at which he can carry a fair average weight. An examination of our handicap-lists will show, that between their top and bottom there is generally a difference of four stone; and though this difference is often effectual in keeping back the best horses, it does not always allow the lightest weights to win, but rather those which are the lightest as compared with their real powers. But it is also well known that certain horses can run half a mile at high speed, but no more; others a mile; others, again, a mile and a half or two miles; whilst another class, now less common than formerly, require a distance of three or four miles to develope their powers, as compared with ordinary horses. These peculiarities are generally hereditary, though not always so; but still when the blood is known, it may generally be surmised that the individual will or will not stay a distance. When the cross in question is stout on one side and flashy on the other, it is not easy to guess to which the young scion may lean; but in those cases where a horse is bred from sires and dams both of stout blood, or the reverse, the experienced hand may, in almost all cases, decide beforehand upon the properties of the son or daughter, as far as staying qualities

are concerned. Again, there are some horses of strong compact frames, with short backs and strong quarters, who may be expected to climb a hill without difficulty, especially if of stout blood; and, again, there are others of lathy frames, with long but weak points, and a great deal of daylight under them, who may win over the flat for a mile, or a mile and a quarter, but can never climb a hill, or get beyond the above distance over a flat. All these points should be carefully studied by the breeder in getting together his breeding-stock, and by the owner in deciding upon the stakes for which he shall enter his young produce.

CHAPTER V.

THE ESTABLISHMENT OF A RACING-STUD.

SECT. 1.—REARING *versus* PURCHASE.

WHEN once a determination has been arrived at to enter upon the exciting pursuit which is now under consideration, the next thing to be done is to discuss the best mode of carrying out this resolution. There are two modes of getting together a stud, one of which consists in breeding the horses requisite for the sport, and the other in buying them at the age of two, three, or four years, according to circumstances. The choice must be guided greatly by the kind of stake which is to be competed for, and the judgment of the proprietor or his usual adviser; also upon the facilities for breeding commanded by him, for without a breeding farm of such land as is suited for rearing horses, it is useless to attempt this mode of proceeding. Either course requires great skill and judgment, and it is seldom that these are acquired until large sums of money have been expended, and the desire for success has been blunted by the knowledge that it is not always the reward of desert. Still, while the passion exists, it is only fair that it should be allowed free scope; and if the turf were only weeded of those of its present supporters who disgrace it, it may recover its healthy tone, and encourage honourable men again to enter its charmed circle, and compete for its honours. If the ambition of the young turfite is high, and he intends to enter into the contest for the "blue riband," he must make up his mind without doubt to breed for himself, for the cases are very rare indeed of success in this particular class of races, with horses bought after they have arrived at an age to be tried. Some few have been sold as yearlings, from particular circumstances, but the great majority of the winning Derby horses have been bred by their proprietors at the time of running. Besides, when a good-looking colt of fashionable blood is for sale, he is generally bought at a price which would make a stud of such horses rather an expensive article, and yet without a stud nothing is to be done in such an undertaking. A man may breed, train, and run a Wild Dayrell as an exceptional case, but few such instances occur, and the necessity for more than one string to the bow is recognised by all those who have entered the arena; but if the intended contests are to be confined to country meetings for specific local purposes, or to other small undertakings, a few horses calculated for them will be easily procured at a comparatively low cost, and with a fair chance of success. Unlike the greyhound, the horse may always be tried with a very near approximation to his real merits, because in every case he will do his best in his then form, and there is no chance (except when the temper is bad) of the horse afterwards turning out very different to his performance on the day of trial. It should also be known, that for common plating purposes a horse may be obtained whose speed is not quite of the first class, but whose constitution and legs are so enduring as to allow of his being raced much more frequently than his highly-organized compeer of faster form and more irritable temperament. Thus the tyro may, at comparatively little expense, indulge his appetite for excitement by competing in country races with a limited stud, and yet a fair prospect of success, and with a certainty of avoiding those heavy expenses which are attendant upon a numerous stud, and the requisites for success at Newmarket or Epsom. Few people would undertake the more expensive gratification of the taste for racing without first gaining experience in the minor events; and I should strongly advise every beginner to keep himself free from those extravagant outlays which are now absolutely necessary to success in the higher departments of racing. Let him

only attempt to master the alphabet, and he will find his hands full enough now-a-days, when even the small events are filled with the offsets of our great races. Indeed, it is extraordinary how well prepared are the horses at all our second-rate meetings, and how little difference there is in appearance between the horses there met with and those running at Epsom or Doncaster.

For Second-rate Meetings, then, it will suffice to pick up horses which are sold as unfit for the great events, as being somewhat troubled with "the slows," and yet stout and honest, with good sound legs and feet. These horses will answer every purpose in company of the same kind, and will pick up stakes which are confined to horses which have never won more than a certain sum; or they will suit selling stakes, where they may be entered to be sold for a low sum, in proportion to their cost and value. These colts or fillies may be estimated at their precise value, if they have appeared in public *and are sound*, but if only tried in private it is a perfect lottery, unless a trial can be obtained with a horse in an equally good state of preparation, and whose form is well known. If either of these modes of estimating the value of the proposed purchase can be obtained, and there is no doubt of the soundness of the animal, the young turfite may venture to invest from £50 to £200, or £300, according to the estimate he has formed, and the advice he has received from his trainer: for, of course, he will not venture to act upon his own unassisted judgment. Racehorses are sold without a warranty of soundness, and are taken with all faults, so that it requires great caution to ascertain their usefulness as regards this important particular. Few horses of any kind are without a "loose screw" somewhere or other, and this is especially true of racehorses, who require every part of the animal economy to be as perfect as possible. Nothing can be more trying than a severe preparation over summer ground, and the races run over some of our courses are enough to destroy anything but legs of steel. It is no wonder, therefore, that so many fail; and it behoves the purchaser to be very careful lest he should lay out his money badly, and be saddled with an infirm brute which cannot stand a severe preparation, much less the constant public contests which he wishes him to appear in. When, however, he has done all in his power to ascertain his fitness, and is satisfied, he may procure him, with one or more companions of the same stamp, and hand them over to a public trainer, or to his own private servant.

Sect. 2.—Requisites for a Small Stud.

A Horse to Lead the Gallops will be wanted in any case; and if the training establishment is a private one he must be procured and used solely for that purpose; but in public stables that is part of the engagement of the trainer, who usually manages, in small strings, to find a horse of some kind for the purpose, or, if a single horse, to let him go in with others in their gallops. In all cases of importance, however, whether in public or private stables, a horse of this kind must be specially set apart to lead the others; and is found by the owner, and separately charged for by the public trainer.

A Boy to Each Horse is also needed, and may be either found by the owner or trainer, as agreed upon; but, in all cases, each horse has its own lad, who has exclusive care of him, dresses him, and rides him at exercise. It is astonishing to see these light-weights with their horses, how they manage to ride them and hold them together; but by early education and constant practice, and partly by their being so constantly with their charge as to make them own them as part of themselves, they contrive to do more than could otherwise be accounted for. It is very desirable to get these lads as light as possible, because of the effect of weight upon the horse's legs; but sometimes the temper of the horse is so bad as to require more than the ordinary control of a racing stable-lad, and then an older and more powerful hand must take the horse in hand, and his legs must take the consequences. After a time, however, the light-weight may try him again, and may now succeed in riding him without difficulty. This is one of the points in which the large establishments have a great advantage, as they can change the lads to suit particular horses; and among their large numbers they have generally a few lads who can ride anything with four legs.

This Small Racing-Stud may therefore be assumed to consist of a few drafts from the great breeding-studs, which have been selected with great care, and by the advice of the trainer, aided also by the examination of a good veterinary surgeon, who may be consulted on the question of soundness. I shall now go on to the consideration of their preparation for racing, usually called training, and shall suppose that it is to be conducted in private, with the aid of a good training groom, and such ground as is available for the purpose.

CHAPTER VI.

TRAINING.

Sect. 1.—The Ground Necessary.

Without Good Training Ground it is quite out of the question to expect horses to be brought to the post fit to run. It may be supposed by ignorant persons that their condition might be perfected on any ground, but this is a fallacy, since the state of the legs and feet must be a source of continual anxiety to the trainer; and unless he can keep these parts in good order, it is impossible to regulate the work as would be otherwise desirable; and hence from the very outset difficulties are thrown in the way of the horse's work, and he is not finally brought out as he should be. Let, therefore, no pains be spared to procure ground of the proper character, and of such a varying nature that part at least shall always be in a fit state to train on. Some land scarcely ever gets hard, and is yet never wet, and this is invaluable for the purpose; but such ground is generally appropriated on account of its great value, and few private stables can have access to it. In many situations there is down land, of good quality in wet seasons, being high and dry; and there is also often within reach a low and mossy tract of land, suitable to gallops in dry summer weather. This is as well adapted to the purpose of training as the best ground in the world, and the only objection is that it is generally free from hill, and therefore not so well suited to the purpose of the gallop, which requires a gradual elevation to finish with. The trainer, however, will make his selection, and if he cannot get all that he wishes, he will do the best he can. Tan or ploughed gallops are required in frosty or very dry weather, where the ground is made hard either by want of rain or by the severe cold of mid-winter; or a straw ride, consisting of the long litter from the stable after it has been soiled, may be laid down in any convenient situation, upon which the horses may be trotted, or even sweated; but it does not answer the purpose nearly so well as the tan-gallop, which is more springy than the straw, and may be made as deep as it is required, so as to take off all the jar inseparable by other means from the frozen earth.

Sect. 2.—Stabling.

Training Stables must of course be obtained, and, if not readily procured built to the hand, they may be put up at little expense. About 50*l.* per horse will find everything absolutely necessary in the shape of stabling, if materials are not unusually expensive, and the tastes of the owner do not lead him into a drawing-room style. This sum will cover all that is *necessary*; but for fancy stables a proportionate sum must be made, amounting, in some cases, to 200*l.* or 300*l.* per horse. Part of the stabling ought to be divided into loose boxes; quite distinct and separate from each other; but horses in hard work do better in company, and should therefore either be in ordinary stalls—which however should be deeper than usual—or else they should only be separated by woodwork below the level of five or six feet, and iron railings above, so as to allow of that companionship which takes off from the tedium of solitary confinement. It is found by experience, that in many instances a horse fond of companionship will take at least a feed of corn more per day in a stall than in a loose box; and hence with light feeders this is a point of great importance, since it often happens that their condition mainly depends upon the amount of corn which they will take. By arranging the stables so as to combine the advantages of both plans, in the way I have suggested—that is, by the iron railing on the top of the divisions, each kind of horse will be suited, and the regular loose box is only wanted where quiet and seclusion are necessary, as in the case of disease, whether infectious or only requiring rest and freedom from annoyance. Many people are of opinion that stables cannot be too light and airy, but this is, I think, a great mistake, and, on the contrary, I am of opinion that they can scarcely be too dark and confined, consistently with good ventilation. If very lofty, they must be warmed artificially, or else they must be entirely stopped from fresh air; but when moderately small and low—that is, ten or eleven feet high, they are just capable of being warmed by the horses' natural heat, and admit of fresh air being allowed to enter as it is wanted, and carried off by a funnel-shaped air-drain from the ceiling. Darkness, I am quite sure, is advantageous to the horse which is doing strong work, and he will thrive twice as well in a moderately

dark stable as in a very light one. The horse in training is at least four hours a-day in the open air, and comes in ready for rest, which he does not take to the full extent in a strong light; but with a darkened stable he lies down and rests himself, and suffers his legs to recover from the effects of his work, which they do much sooner in a recumbent position than when sustaining the weight of the body, and its full column of blood. For these reasons, therefore, and because I have always found the healthiest stables were dark and moderately low, I should strongly advise their selection for the purpose of training; always taking care that they are thoroughly cleaned out, and that the drains are well trapped, and act with a good fall. There should be every accommodation in the saddle-room for heating water, and for washing and drying sweaters, &c.; and the lads should be located in the rooms over the stables, so as to be always within reach of the horses, in case of their being cast, or any other accident occurring. Good water is also very desirable, and the situation of the stable, with regard to the training-ground, is of great importance; it should be within a quarter of a mile of the place where the sweating-gallop ends, in order that the horse may at once be taken in, and dried and finished off before the sweat has time to be re-absorbed into the system. If this cannot be accomplished, a single box must be built at the end of the gallop, where the horses may each in their turn be rubbed down, and then taken out again to have their canter before being shut up in their stable. Such are all the requisites for the ordinary racing-stable; those which relate to the breaking and preparation of two-year-olds I shall leave till after the consideration of the breeding-stud, which alone requires such additional accommodation. I am now supposing that the simplest kind of training is going on, and such as the tyro should alone attempt, if he is at all anxious to avoid a decided failure; for it will be quite time enough after mastering the *arcana* of the ordinary racing-stable to attempt to penetrate the still deeper mystery of the breeding-stud, and the bringing out of the two-year-old.

Sect. 3.—Saddlery.

Besides the exercise-saddles and bridles which are left in charge of the lad, and kept in the ordinary saddle-room, there is needed a supply of saddles for trials, which should be weighed differently in order to make up what is intended to be carried in the private trials. These should be under the sole control of the trainer, and kept under lock and key; though, in spite of all attempts at concealment, the lads now-a-days are generally able to arrive at a correct estimate of the powers of the horses which they ride; and many of them have longer heads than their masters give them credit for, though totally incapable of going beyond their peculiar province, and perhaps dull enough in their powers of appreciating anything unconnected with horse-flesh. But still it is useless to give them more than necessary means of arriving at the merits of their charge; and as the trainer may, and does, saddle the horses himself before their trials, they do not even handle the saddles, and he may if he likes keep the weight entirely to himself. These saddles may be kept in a case expressly for the purpose; and if a room is not set apart for them, the case may be placed in a kitchen, or other dry and warm situation. The trainer will of course keep a record of trials, and many men also enter every day the amount of work done by each horse; keeping in fact a regular diary of their performances.

But in addition to these private-trial saddles, numberless articles are required for the training-stable, including—combs; brushes; hair-gloves, which are now much used and approved of; bandages, woollen and calico; sponges; ordinary clothing; light clothing; sweaters and common rugs; exercise-saddles, of 7 lbs. weight; plain snaffle bridles, and double bridles; Pelham bits; martingales, and in fact all the varieties of tackle which the trainer may approve of as likely to suit the particular temper of his horses; boots for exercise and for travelling; knee-caps for ditto; water-proof sheets for wet weather; rubbers; leathers; scrapers; twitch; trimming scissors; and the few ordinary remedies used in the stable, such as purging balls, cordial balls, nitre, condition balls, &c., which most trainers use at their own discretion. Local applications for strains or blows of the legs are also kept ready for use, as these accidents are of almost daily occurrence, but their treatment will hereafter be given under the head of Diseases of the Horse. With these exceptions, the above list includes all the articles wanted for ordinary use in training the horse for racing.

Sect. 4.—The Necessary Examination of each Horse.

Before commencing Training, it will be necessary to examine each individual

horse, and consider the state in which he is as regards forwardness of condition, and also his powers of constitution, his breed, and, as a natural consequence of these points, his capability of standing work. In forming this estimate, the trainer is guided by the following points, which to an experienced eye are pretty certain aids in arriving at a conclusion on the subject:—First, the breed, or strain of blood, upon which much depends, for some breeds are notoriously bad trainers, and others will take any amount of work; secondly, the state of the legs, which must be attended to in all cases, because a horse half fit upon sound legs is better than one perfectly prepared, but so sore and lame as to be unable to raise a canter; thirdly, the feel to the hand, and the general appearance, which indicate either a hearty, gross, and good feeder, or a delicate, soft-constitutioned horse, always difficult to train. Of course, these three varieties will require very different work: the first being easy enough to get ready, and requiring only regular work, with weekly sweats, and plenty of walking exercise, &c.; the second will constantly demand the trainer's supervision, and must have a very careful lad to ride him, since a single careless gallop will most probably stop his preparation, and occasion his being laid by for some time to come, or perhaps permanently. The third variety may or may not have bad understandings; but in any case he will demand almost as much care as No. 2, for fear of giving him too much work, and thus upsetting his appetite, or destroying his general health. Each of these classes must be worked by itself, as far as sweats and gallops are concerned, but in their walking exercise they do not get any injury by going in the same string. Without these varieties in constitution, temper, legs, breed, and age, training would be a very simple process, because it theoretically consists in simply giving the horse work enough to get his muscles and wind into the highest possible state, and also removing all superfluous fat from the surface as well as the interior of the body. Training is, in fact, working the horse; but the nicety consists in giving the proper amount suited to each particular case, and in giving it at the right time. It must always be remembered that these directions apply to thorough-bred horses only—the training of half-breds being conducted very differently; and it will be alluded to under the sections on Steeple-chasers and Hunters.

THE FOLLOWING CONSIDERATIONS are those which mainly weigh with the scientific trainer in his decisions and his mode of dealing with each inmate of his stable. The first great essential is a sound constitution, and a robust state of health to begin with. No one can train a horse already lowered by bad food, or bad treatment, to such a point as to be weak, and probably to a certain extent diseased. Such an animal should be thrown by for a time, and no attempt should be made to train him until he has recovered his flesh, and is in good health, and rather lusty than otherwise. There should be no unsoundness of any kind—that is, none of any importance; and more especially should the lungs and legs be free from disease, for if either of them—the main agents in active exertions—is at all faulty, there is an end to all chance of doing any good by training. It was formerly the custom to train all horses by means of purgatives and sweaters till they were as thin and wiry as it was possible to make them, and no horse was considered fit to run who did not show every superficial muscle in his body; but now a better system prevails, and it is found that as soon as the wind is so good as to enable the horse to exert himself from end to end of his distance, without distress for more than a second or two, that then he is sufficiently relieved of his fat, and only requires time to make him perfectly fit; so that no rule can possibly be laid down, for neither the eye nor the amount of work, nor any other fixed test will apply in all cases; and experience and judgment must be called in to decide upon the amount of work which each horse must go through.

THE LENGTH OF TRAINING must vary very considerably according to the previous condition of the horse, his age, and the distance he has to run. Six months may, perhaps, be taken as the average of time which will be required to bring a three-year-old horse out in his best form, supposing him previously to have been broken thoroughly, to have had ordinary walking exercise, and to be in good health, and sound in his limbs and wind. Many horses have been brought out much more quickly, even reckoning from the time they were at grass; but this is, I believe, the usual average, and in many cases a still longer time has been employed in producing that exceedingly high state of health which is the result of high feeding and strong work, but which can seldom be long maintained.

But this time is not all occupied in one undeviating kind of work—walking to-day, galloping to-morrow, sweating the next

day, and so on. The plan is generally adopted of dividing the process into two or three stages, called "preparations," and in the intervals giving a dose of physic, and a few days', or even a week's rest. It is well known that a horse which has been out of work for a long time, or which has never done any in his life, requires a long seasoning before his bones, sinews, and ligaments, as well as his heart and lungs, are in a fit state to undergo violent exertions. Hence, supposing the time intended to be occupied in training a horse for a particular occasion is six months, then dividing this space into three preparations, the first will be occupied by very slow and gentle work, the second by work somewhat faster, and the third by the highest rate of speed in the work which the horse is ever to be subjected to. In this way, therefore, the training of the horse may be considered under the three heads of his first, second, and third preparation, each one more severe and the work faster than in the preceding one.

Sect. 5.—First Preparation.

The Grand Object in this part of training is to harden the limbs and their joints, to get all superfluous and gross fat out of the interior, and to accustom the horse to long-continued walking exercise. It is seldom that the wind can be entirely made good in this stage, for very fast work could not be borne, either by the internals or externals, and chronic cough or inflamed joints would be sure to follow the attempt to hurry the process. Some hardy horses might perhaps bear the strain with impunity, but in most cases the injury would be very great, and the training must be stopped in order to rectify the original error. "Most haste is worse speed" here in real truth; and the attempt to begin at the wrong end is almost sure to make the horse slower, instead of the reverse.

Mild Physic will generally be necessary once or twice during the course of this first preparation; but if the horse is out of the hands of those who have attended to his health and given him regular exercise, he may dispense with its use for the first month; after which in most cases it will be required. The amount will vary with the size and age from three drachms to five, or even more if an aged horse has been on green food, which always makes him less amenable to the action of purgatives. When this dose has thoroughly set he may be walked out regularly, and commence the routine of his daily work. (For purging-balls, see Diseases of the Horse.)

On Opening the Door of the Stable at four o'clock in the summer, or at six or seven in early spring or autumn, the lad first racks up his horse, so that he cannot lie down, but can reach his manger. He is then fed, usually with a quartern of oats, and perhaps a single handful of chaff if he chews his corn badly; but if he is a gross feeder no chaff at all should be given. During the time of feeding the bed is put straight, removing all droppings during the night, and otherwise setting it clean and smooth, and free either from dung or urine; taking care to remove all the straw stained with either the one or the other. The most particular stable-men turn back the litter every day, and "muck out" the stall; but every careful man does this at least twice a-week. While the horse is finishing his feed the lads may have their breakfasts, for as they will be two or three hours without getting off their horses, they will want something on their stomachs. By the time this is finished the corn is eaten, and the lad now gives his horse his drop of water, and racks him short up, puts on his muzzle and dresses him lightly over; after which he reclothes him, saddles him, and puts his boots on, and then either puts his bridle on, after turning him round in his stall, or leaves him for awhile, according to his directions, till the other horses are ready. When, however, all are prepared, the horse is mounted in his stall and waits his turn to go out; which he does patiently enough in the stable, from the habit which he has acquired of standing still there, but which would be difficult to persuade him to do on any other spot.

Walking Exercise is the main element in this stage of training, and in fact many horses are fit for little else till they have gone through their first preparation. A single slow sweat, or perhaps even two or three may be desirable when there is very great grossness; but in the majority of instances it will be better to confine the horse, at all events for the first month—almost entirely to walking exercise. If the horses are young or very fresh, they must be walked for half an hour or so round the yard or some similar inclosure, for fear of their breaking away with the lads; but if aged, or quite steady naturally by temper, they may at once be ridden off to the training ground. Here they are walked in a large circle or oval, or other suitable figure according to the ground, for one two, or three hours; some of them taking a short canter or hand-gallop, if the trainer thinks them fit for that amount of exercise,

but none of them being allowed to go fast enough to blow or sweat, but merely to vary the monotony of the walk and to keep up the faculty of going, so as to prevent the leg-weariness which incessant walking produces. With this trifling variation, the walk may be kept up for three hours on the average; each horse when emptying himself being allowed to stop, and all behind him stopping at the same time. Mr. Darvill—who is the only writer of any note on the racehorse—is opposed to more walking exercise "than is absolutely necessary," which amount he thinks will be measured by that which will, first of all, give the horse time to empty himself, to give flexibility to his muscular system, and to keep firm his legs; secondly, assist in steadying those horses which may be too hearty and full of their gambols; and thirdly, give delicate flighty horses an appetite for their food, as well as assist in steadying them. But in opposition to his opinion is the practice of most of our trainers, who use walking exercise jointly with the occasional spirt or hand-gallop to an extent which Mr. Darvill never dreamt of. There is no doubt that it may be carried to excess, like every other useful thing, and by over-doing it the joints may be rendered stiff, and the muscles slow to act, and rigid instead of being elastic. But up to a certain point it is the great reliance of the trainer, and especially with horses whose legs are at all inclined to give way, as is too often the case with our present breeds.

The First Sweat should never be before the horse has been steadily at slow work for a fortnight; and if not very lusty, or if he is not a good feeder, it may well be postponed for a longer time still. Some horses should never have any clothed sweats, but will part with their superfluous fat without that aid. Indeed, with irritable, fretful-tempered animals, the difficulty sometimes is to keep them from sweating on all occasions; and even if galloped in their ordinary clothes they lose too much, and are obliged to be worked after being stripped of everything. The mode of sweating is as follows, and as it is done at this time in the morning, it is as well to describe it at this place. It is generally the practice to keep back three horses besides the sweater, in order that their lads may assist; for it is an operation which requires a good deal of help, as will presently be understood. When the sweat is to be a general one, and no part in particular is overloaded, it is usual to put on an old rug first, or a sheet called a sweater, and an extra hood and breast-cloth, then a second quarter-piece, and lastly a complete set of clothing over all, with the saddle as usual. But when particular parts are to be reduced, as, for instance, the shoulders, or the parts about the brisket or bosom, an extra cloth is folded and strapped up to the breast-plate straps on the withers, or retained by the saddle if for the brisket only. All these points of detail will exercise the ingenuity of the trainer, and he will, according to circumstances, place extra clothing on those parts he wishes to reduce, and keep it light on those which he thinks already drawn sufficiently fine. When all are securely fixed, the horse is ridden out, and after walking for a very short time to empty himself, he is started off for his distance, which is generally four miles, and is slowly and steadily kept galloping for three-quarters of it; at the expiration of which he is set going a little faster, and at last is brought out to his top-speed, if in full training, or nearly so if in his second preparation. By his top-speed, however, is not to be understood the very outside pace which can be got out of the horse, but only such a speed as is short of that by so much as will preserve his stride in full vigour, and prevent that overpacing which leads to the rupture of muscular, or tendonous structure. In his first preparation he should seldom be extended, and it is better to increase the distance rather than to accelerate the speed beyond the steady gallop; but few horses refuse to sweat at this pace in this stage of training. As soon as he has finished the distance, the trainer examines his state, and either directs him to be walked or trotted on to the rubbing-place, which should be a box set apart for the purpose, either on the training-ground or at the usual stables. The full benefit of the sweat is not obtained unless the fluid is scraped off before it has had time to be re-absorbed, which is effected by the skin, if it is allowed to remain on its surface after this has ceased to give out any fluid. It then, instead of perspiring, adopts the opposite extreme, and appropriates the sweat by its own power of absorption; thus doing away with the chief benefit which was expected and desired from the sweat itself. When the hand of the trainer, applied to the shoulder of the horse under his breast-cloth, tells him that the sweat is coming kindly, the horse may have a couple of rugs heaped upon him, and be suffered to give out the fluid for a very few minutes only; but if it does not break out at once, three or four must be put on him, and he must wait a

quarter of an hour or twenty minutes before he is fit to scrape. If he sweats freely, the lad in charge of his head may rub his ears and wipe his eyes, so as to refresh him slightly; but if there is any difficulty in bringing on the sweat this will only retard the process, and he may be allowod to stand quite quietly, and without any attempt to refresh him by the above little attentions, or by rubbing his legs or wiping his thighs or bosom. As soon as the trainer gives the word the hood is taken off, and the head and neck rapidly rubbed dry, together with the bosom, from which the breast-cloth is removed, and the rugs and quarter-piece turned back so as to expose the whole neck and the points of the shoulders. Four lads may be employed in scraping and afterwards drying this part, besides the one holding the bridle; but if the horse is quiet enough, this may be removed, and the head dressed all the more effectually. A very few minutes suffice for drying this part of the horse, when the bridle should be re-adjusted, and the quarter-piece and sweaters wholly turned off over the croup; upon this the four lads again set to work with their scrapers and rubbers, and two taking the sides, and the others the hind-legs, they soon get rid of every particle of sweat, and have the coat perfectly dry and smooth. Much depends upon the stage of training; in the early part, the sweat is profuse, thick, and soapy, and takes more time to dry, while in the latter stages when the horse is getting fit, it is watery and scanty, the horse will scarcely scrape, and dries without the slightest trouble. This is a good sign of condition, and the necessity for a repetition of the sweat may generally be gathered by the appearance of the fluid, which, when thick and lathery, shows that there is much gross fat in the system, requiring removal; but, nevertheless, it also shows that great care must be taken in the process, lest mischief should be done by calling upon dame Nature too rapidly while the animal is in this fat state, and liable to inflammations of all kinds. After rubbing all the coat dry, and smoothing it down with the leather rubber, the usual clothing should be put on, and the horse taken out to his exercise, which he may take with the other horses as usual, care being had that he does not catch cold if the weather is severe. The reason why the horse is taken out again is, that if he were left in the warm stable he would break out again into a sweat, and if he were placed in a cool one he would surely take cold. Walking exercise, therefore, with a short gallop, is adopted as a means of avoiding both of these injurious conditions; but he should not continue it longer than to put him into a cool state and restore his nerves and blood-vessels to their usual state. The length of ground and pace for sweating vary with the age, condition, and intended distance to be run over in the race for which the horse is trained, the *maximum* length being six miles, and the *minimum* two to three, with a speed varying with every individual case, and depending upon the age, breed, and action of the horse, as well as his constitution and legs, and the state of preparation in which he is. Sweats are given at periods varying from once a-week to once a-fortnight after the first preparation, but seldom so often during that time. When sweats are given without clothing, they are in other respects just the same as that described above, and the lads are required in a similar way to dry the horse at once; but the quantity of sweat is not nearly so great, and two good hands will generally suffice for the purpose. In almost all cases, even where clothing is not used, it is heaped on when the horse is taken into the rubbing-house, in order to encourage the perspiration.

On Returning from Exercise, the horse is watered and then well dressed over for at least three-quarters of an hour, or an hour, taking care that he has plenty of litter under him, as he will generally knock about a good deal while being dressed; and will do his legs and feet no good if he keeps striking the bare bricks of the floor. By the time this is done, the hour of feeding, from ten to eleven o'clock, will have arrived, and the horses may be fed; after which they are shut up, their heads unracked, and they are left entirely undisturbed, and with locked doors, till their next feeding time, which is generally at three or four o'clock. They are now fed again, and allowed a few go-downs of water, and are then saddled and taken out to exercise for an hour or an hour and a half; after which they are brought in and watered for the night; they are then dressed over lightly, and are left till seven o'clock, when they are fed for the last time with their corn, which the light-carcassed ones should have mixed with a little chaff. At this time the hay which is allowed to each is placed in the rack, and then the stables are locked up till the next morning, unless any accident happens requiring the presence of the boys or trainer. The quantity of hay allowed to the horse in training varies from six to eight pounds

per day. It should be of the best upland quality, *well kept*, and at least one year old. Green hay which has never been properly fermented, is very unfit for race-horses. This plan is slightly varied in different stables, some, for instance, giving the water in the stable, and others from the troughs, which used formerly to be the sole mode of watering horses; but the facility of poisoning the troughs has now in a great measure superseded their use, and the water is given in the stable; often being taken from a reservoir under lock and key. These precautions are now become absolutely necessary on account of the constant occurrence of poisoning, which is so very easily effected by means of the water, almost without any reasonable chance of detection; the presence of fish being, however, a pretty good test of its purity. The hours also vary in different stables, but the above are those most commonly followed; and they suit the habits of the horse and the powers of his stomach, which require to be often filled with small quantities of food, and not gorged like the dog and cat tribe.

The Amount of sweating and galloping during the first preparation may be very gradually increased, if the trainer finds that his early attempts are followed by improvement; that is, if the horse seems light and corky after a sweat or gallop, and if he feeds well and his legs are cool. Sometimes the reverse of these results takes place, and the horse is quite upset, and requires a bran mash or a gentle dose of physic to put him in place again; after which he must be allowed a considerable time before the attempt is next made to improve his condition. All these various points require the greatest care, and it is here that the experience of the trainer is tested. Nothing is more easy than to bring out a perfectly sound hardy horse, but to produce a naturally washy and light-carcassed horse in high feather, is a task which requires not only experience but considerable thought and judgment, since there are very few even of these which are exactly alike; and fresh complications are constantly occurring, the results from which must be set to rights at once, for if suffered to gain a head, they will demand such severe measures as will put the horse back very considerably in his preparation.

A Second or Third Dose of physic, of a mild nature, will almost always be necessary at the end of this first preparation; and the horse should be well mashed before giving it, and then suffered to rest upon walking exercise, and a lighter allowance of corn, with a mash or two, until the expiration of a week, including the days of his physic; after which his next stage begins.

Sect. 6.—Second Preparation.

By the end of the last described stage the horse is getting hard in his muscle, his sinews and joints are becoming set and firm, and he may now be galloped a moderate distance and at a fair pace with safety. His corn also may be increased one quarter, being raised from a peck a day to five quarterns, which quantity may be continued throughout this period, varied of course according to circumstances. The stable-hours are precisely the same, and the length of exercise is not altered, but the chief difference is in the pace of the gallops, and the frequency and length of sweats. These are now generally given every week or ten days, and the distance is almost always four miles, except with very young colts, which we are not now considering. In the sweat itself the pace is made pretty good, especially towards the end; and if the horse is at all inclined to be lusty, he is made to extend himself for the last mile, and is kicked along and roused to his outside pace towards the finish, so as to make him blow very considerably, and to open his pipes to a great extent. The sweat in the first preparation is only adopted as a means of getting rid of the superfluous fat from the interior of the body, but it is now used partly for that purpose, but also in order to improve the wind. The lad riding the sweat should be a good judge of pace, and the one usually employed is seldom sufficiently so to be trusted; an older head will almost always be necessary, and the one in the stable who is the best judge of pace should be selected. In riding gallops the head lad usually leads, and thus regulates the pace for those behind him; but in a sweat this cannot be, because the sweating horse goes at so very different a rate of speed with all his sweaters on to that of a stripped horse, that it is very difficult to lead him, and avoid forcing him too much. No one but the rider of the sweating horse can exactly tell how to ride him, and unless it is left to his discretion mischief is sure to accrue. Unless, therefore, there is sufficient strength in the stable to allow of three or four horses being sweated together, it is better to let the head lad sweat them all; but if there is, he may easily regulate the pace for those sweating at the same time. The scraping and subsequent exercise

is just the same as described at page 380, except that afterwards a gentle gallop may be given with advantage.

GALLOPING EXERCISE in the second preparation, independently of the sweats, may be now had recourse to, great care being taken that neither the legs nor the constitution suffer by too rapid an increase of the length of gallop, and the pace at which it is done. During the first preparation, and towards its close, the horse has been accustomed to short gallops, and the trainer has been able to judge from them, and from the slow sweats, how far he can venture upon faster gallops, and longer and more severe sweats. Throughout the whole of the three preparations each succeeding stage must be regulated by the preceding one, and the superstructure must be built according to the effects of the early stages upon the foundation. If, for instance, the last week's work is badly borne, the next must be rather less than more severe; whilst, if the horse "trains on," and improves in all respects, the lengths and pace may be gradually augmented, and all goes on smoothly, and to the trainer's satisfaction. Thus it may be understood that no rule can be laid down further than this, that so long as the horse is lively, looks bright and merry, and *feeds well*, he may be safely considered to be above his work; and it may cautiously be increased up to the highest standard of which he is capable according to the opinion of the training-groom. The difference between the sweat and the gallop may here be considered; the former being a process of reduction, to get rid of offending and useless matter, the latter a process of education, to build up useful muscular structure, and to teach the horse how best to use and economise his powers. This difference should be steadily kept in view, and the trainer should remember that he not only has to get rid of fat, but he has also to lay on good wiry and yet elastic material, and to accustom the horse to exert his powers in the most quick and telling manner. Such is the theory of these two processes; we shall hereafter return to the practice by which this is carried out. With regard to sweats, as soon as the fluid becomes quite watery, and all superfluous fat on the surface appears removed, they need not be used with heavy clothing; but the horse may either be sweated in a light rug or stripped, as the trainer may consider best from his appearance and from his breed, which is a great guide to a man who knows practically the peculiarities of the various strains.

THE MANAGEMENT OF THE GALLOPS is dependent, in a great measure, upon the number of horses in the hands of the trainer, and upon their peculiar natures and dispositions. Some lead best, others will not lead kindly, and when placed in front are always hanging about, and preparing to bolt out of the course or gallop. These animals should always be kept second or third in a string, and must have a horse to lead them in all cases, in order to extend them and bring out their powers, which often are in the end of a first-rate character. Hence the necessity for a horse especially set apart for the purpose of leading the gallops, because the chances are that there is not one in the string whose temper is such as to enable the trainer to place him first with advantage to himself, and yet sufficiently fast to draw out the powers of those behind him. If, however, there is such a horse, no other is wanted, and the expense may be spared of procuring one. But it is very seldom that a horse even of a suitable temper leads a string long without losing pace; still there are exceptions, and, in some instances, he will not train anywhere else, and if placed behind another he will fight in his gallop, and take so much out of himself as to interfere seriously with his progress. Such a horse, however, will seldom show to advantage in a race, because he will not be used then exactly as in his gallop; and his competitor's rider finding out his peculiarities will worry and excite him, and make him display those qualities in the race which the trainer, by putting him to lead, has kept in abeyance during his training. So that after all the evil day is only postponed to a time when its advent is attended with the expense and mortification inseparable from a public defeat. These animals are very useful to the trainer, but they are often unworthy of the support of their owner, leading, as they almost always do, to his belief in their superior powers from their private performance, which is only upset by their public failure.

THE CONCLUSION of the second preparation should be a severe sweat, then a bran-mash for two following nights; after which, if the dung is soft enough, a dose of physic should be given, and the week made out by a slight reduction of corn, with walking exercise only. This brings us to the last stage of training.

SECT. 7.—THE FINAL PREPARATION.

SETTING.—Except with very gross horses, and such as will persist in eating their litter, the muzzle is not employed until the

time we are now considering; but in such animals it may be necessary in the second stage of training, yet the instances are not common in which it is needed. By setting is understood the preventing the horse from getting at hay or litter from the time the muzzle is put on; for it is found by experience, that fast work upon a stomach containing anything but corn will interfere with the wind, and occasion mischief rather than improve that essential qualification. Hence, in different horses, according to their constitutions, they are set at particular hours —some requiring to be set over night after having their hay, others being so light-carcassed as to be better only set at a very early hour in the morning, and some very gross feeders requiring the muzzle on immediately after their last feed of corn over night, and without giving them any hay as usual, or perhaps only half their allowance. In all cases the setting does not interfere with the corn, which is given as usual.

SWEATING during the last preparation is carried on at such intervals, and with as much clothing, as the experience of the second preparation leads the trainer to consider desirable. All these points must vary with each case, and it is ridiculous to attempt giving rules on the subject. I have already, in page 382, described the increase in the severity of the sweats during the second preparation, and I can only add that according to the results of these will the trainer decide upon what is now to be done. During the last preparation the amount of walking exercise may be reduced in exact proportion to the degree in which the gallops and sweats are prolonged. It is no doubt true that the long continuance of the slow pace of walking is to a certain extent opposed to a very fast degree of speed, and the horse which was only walked a very short distance would in all probability always command the highest amount of pace of which he is capable *for a short spirt.* But as he is generally wanted to do more than this, and as his legs will seldom admit of his doing all his work at a fast rate, a compromise is effected, and his training consists of a due admixture of walking and galloping, varied in length of each according to the peculiar circumstances of the case. Sweating, however, as already remarked, is for a different purpose, being designed to reduce the fat of the horse, or to keep it down if already reduced by previous sweats, and to prevent any unnecessary amount of galloping work beyond that which is required for wind and muscle. By these means the legs are not made more stale than necessary, and yet the horse is kept light and corky, and his heart and internal organs are allowed free play. There is no doubt, however, that if the legs would admit of it, and if the individual is not more than commonly gross, sweats might be dispensed with, and the gallops made to suffice; but as in practice it is found that the amount of fast work necessary for this purpose will almost always make the legs stale, the expedient is resorted to of using a slower pace, by the aid of extra clothing, to do that which the faster pace and more frequent gallops would otherwise effect. It may therefore be considered as a rule, that in all cases during the final preparation, a long-continued and moderately fast gallop, called a sweat, with or without clothing, will be required every week or ten days to keep down superfluous fat and flesh, and to do this without affecting the legs.

THE GALLOPS which a horse goes through in his last preparation are chiefly with a view to accustom him to extend himself at his best pace, and in a steady, workmanlike way, without raking or fighting, and with the view of gaining the power of staying the distance which he has to get. The process to effect this will depend in great measure upon the distance which is "to be got into the horse" (or which he has to run, in plain English), and also upon his temper, age, and breed. Some horses will bear training badly, and can never be safely galloped the distance which they have to run at the speed which they are likely to be put when actually engaged in the race. They must be nursed, in fact, and the best must be done with them of which they are capable; and such horses are very difficult to bring out, and will not do to race a second time for perhaps two or three months, in consequence of the effect produced by the effort to which, of necessity, they are unused. This difficulty may either arise from a high state of nervous irritability, or from delicacy of constitution, or from both. In many cases, a horse which is hard pushed, and either made or allowed to exert himself to the utmost, is so excited that he refuses his feed for some days, picking up only a few oats, or a handful of hay, and losing his condition more in a few days than can be replaced in two or three months. It is obvious, that if this degree of excitement is often attempted in private during the course of his training, the chance of success would be entirely destroyed, and therefore the plan is adopted of always

keeping the horse within himself in his gallop, and never by any chance allowing him to extend himself to such a degree as to produce this unfortunate result. All this, however, can only be found out by experience, and it is not until the mischief is done that it is possible to discover that any horse will be thus affected. It is a great drawback in all cases, and it is only in very superior horses in other respects that it is worth while to persevere with such temperaments. This condition of the race-horse has nothing to do with, though it is often attended by, the peculiarity evinced by some animals of displaying their powers only in private. Many a first-rate horse, as tried in private, will never face a crowd, though he will take any amount of work as long as there is no noise and bustle, and will do all that is required; but once let him hear the shouting of a crowd, or see them beforehand even, and his energies seem to leave him, to the extent often that he ceases to struggle and "shuts up," as it is called, at the distance, or perhaps nearer home, apparently with the race in hand. There is no remedy for this nervousness but repeated trials in public, because of course the crowd cannot be got together or imitated in private; and thus the only way is to persevere until the horse becomes accustomed to the stimulus, which, however, he often fails to do. It is partly a constitutional defect, but it may also arise from the want of early accustoming the young colt to crowds, and the noise connected with them. Very valuable young horses, when broken, are often nursed up and kept in retired situations for fear of accidents, and the result is, that they are easily alarmed when first taken into company, and so affected by it as to be utterly useless for the very purpose for which they have been so carefully preserved. Care has here defeated its own object, and it is only another exemplification of the principle, that a good thing may always be overdone. The expedient is sometimes adopted with success of deceiving the horse by running him in clothing, but this is chiefly useful when great punishment has on a previous occasion been used in a race, which has made the horse nervous, and perhaps vicious, afterwards. The clothing then, is associated with the absence of the spur, and the race is run without the reminiscence of the severity which was formerly used; but for the purpose of doing away with the effects of the crowd such an expedient is of little value.

THE LENGTH OF GALLOP is generally in proportion to the intended race, and their outside distance is not constantly gone over, but only once, twice, or thrice a-week, according to the temper and stoutness of the horse. These longer gallops are generally a trifle further than the distance of the intended race, unless that is a very long one, and the horse is not very stout—as, for instance, for Queen's-plate distances, when the sweats may be relied upon for the purpose, and the horse may be kept to two mile gallops at the outside. If, however, he is stout enough, it is always better to send him the full distance, and a little over, at least once or twice a-week. Shorter spins of three-quarters of a mile, or a mile and a quarter, will be adopted as often as the trainer sees fit, and one or two will be given, at a pace varying with circumstances, every day, except the day after sweating, when little more than walking exercise should be used. In finishing the gallop, the hindmost horses are allowed to reach, and even to go by, the one leading them all; but this is only occasionally, and not in every instance. The trainer beforehand gives his orders to the lad leading, who is generally put there because he is a judge of pace, and to be depended upon; he also instructs the others either to keep their places, or to get to the leading horse's girth at a particular part, or even to go by him if they can at the finish—all according to the wishes of the trainer; and the going by at the finish being either by suffrance of the leading lad, or otherwise, as the case may be. The necessity for all this, however, will be evident and clear to the least experienced, and need not be more fully enlarged upon.

OVER-MARKING is the effect produced upon the horse constitutionally, as well as locally upon the legs, by over-work and over-feeding. In this respect the horse may be compared to the bow of the archer, which may be tightened with advantage up to a certain point, but beyond that it ceases to shoot at the best rate, and will in fact break if the tightening is carried far enough, or will permanently suffer in elasticity and power, without actually snapping. So it is with the horse; up to a certain point, varying in every case, he may be galloped, and sweated, and fed, but in every case, there is a turning point which must be carefully watched, and avoided by diminishing or by not increasing the food and work, so as to steer clear of the dreaded result. The over-marked horse is detected by his dull heavy eye, his staring coat, his battered legs, and his general look of care. At the same time

it must be known that a *stout horse* should not make his appearance full of life at the post, but should, though looking blooming and full of muscle, be quiet and rather dull than otherwise. Such is the appearance of the well-trained horse of stout blood; but, on the other hand, the same degree of work which would produce this state of quiescence would be fatal to the chance of another horse of less stout heart and constitution, and therefore it is common enough to see even in the same stable two horses make their appearance, one dull and sleepy-looking, and the other full of irritability and life; and yet both have had full justice done them, and been trained with equal care, though with a very different amount of work.

HAND-RUBBING to the legs must be practised throughout the whole course of training, but it is now more than ever necessary, and each leg should have at least a quarter of an hour's rubbing every day. It is astonishing what a difference this process makes in the durability of the legs, as it is found by experience that they will go through much more battering while they are carefully hand-rubbed than they would do without it, or with it only imperfectly done. The more precise mode of rubbing will be given under Stable Management, which see for many other directions necessary for the management of every kind of horse; those only peculiar to the racehorse being here given, in order to avoid endless repetitions.

SECT. 8.—THE TRIAL.

A TRIAL will in most cases be required before the actual race, and it is generally attempted at about a fortnight beforehand, or still longer in the case of important races like the Derby or St. Leger. It is usual to try horses about two days before their customary sweat, so as not to interfere with their due course; but if the horse is not very lusty, and the trial is to be run very true, the sweat may often be dispensed with, and the trial take its place. No private trial can be depended upon unless the horses are ridden by men as good as those who will ultimately be ordered to ride; and to put a first-rater on the horse to be tried, with an exercise lad on the trial horse—as is often done—is a mockery and a snare, and only leads to disappointment. Far better than this is the plan of putting up the usual boys on both; but sometimes two regular jockeys can be obtained, and then, if both horses are really equally fit, some dependence can be placed on the result. After all, the private trial cannot give implicit confidence, for the reason that I have given in page 384, especially in horses which have never seen a race-course, and such are those which are generally tried in this way, because those which have already been out are by that means tried, and the less they are hustled the better. Nothing differs more from a true-run race than the ordinary careful gallop used in training, where the horses go a good steady pace for a certain distance, and then make a single effort, and finish without a prolonged struggle; but in a race it often happens that first one horse goes to the head of a dreaded performer, and extends him, then another tries his powers, and perhaps even a third, all which never is done in a private trial. Scarcely any two races are run exactly alike from these varying circumstances; and thus it cannot excite wonder that the trainer or the owner is deceived, and led to expect a very different result from what really takes place; though if the race had been run exactly like the trial, the horse might have performed as well as he then did. In all cases of private trials, such a weight is put upon the trial horse as to make him (on the principle of the handicap) the equal of the horses which are to be met in public. The trial horse, therefore, is of no use unless his powers are well known to the trainer; and he should have been recently out, so as to have proved his present "form" by his actual performance, without which criterion he may as well be kept in his stable. If, however, all these points have been attended to, and the beating has been very satisfactory and complete, it is reasonable to expect that the same can be repeated, subject to all the vicissitudes already alluded to.

SECT. 9.—THE LAST WEEK'S WORK.

A SWEAT, either with or without clothes, usually commences the last week before running; and the extent to which it is carried will always depend upon the lustiness and general character of the horse. If the trainer is of opinion that his pupil must be drawn fine, he will now put the finishing touch to his previous work by giving him a severe sweat; but if, on the other hand, he thinks that the opposite condition will suit him best, he adopts the plan of giving a very gentle sweat, and perhaps without any clothes. In all cases, however, the long steady gallop afforded by the "sweat" is useful about this time, and should seldom be given later than the seventh day before running; though in

extremely gross horses, or where the individual seems always improved by the sweat at a short interval, it may be practised as near even as the fourth day before the public performance. After the sweat the gallops are given as usual, and carried on daily until the day before the race, when a slight or severe one is given, according to the nature, age, and temper of the horse. Usually, however, a good brushing-gallop is given two days before the race, and on the day before only a moderately short and fast gallop, so as to open his pipes, but no more. All these points, however, cannot possibly be entered into, further than to give the most common requirements, and the principles upon which they should be varied.

Sect 10.—Feeding.

The Feeding during the whole of the third preparation is on the most liberal scale, being increased from four quarterns of oats per day in the first, and five in the second preparation, to six quarterns in the third, with the addition sometimes of half a quartern of split beans divided among the four feeds. Peas used formerly to be much in vogue for training purposes, but they are now seldom used, it being found that they disagree with the horse more than beans; and that they are apt to affect the kidneys, whilst beans are entirely free from that objection, and are solely prejudicial to the condition, inasmuch as they are heating, and apt to produce feverishness and a tendency to inflammation of the legs. Hence, most horses are better restricted to oats and hay; and with good English oats of full weight, and sound upland hay, the condition may generally be obtained as soon as, and retained much longer than, with the aid of any other kind of food. Some horses, however, are very shy feeders, and will scarcely eat oats enough without beans; and in such cases the last-mentioned article must be had recourse to, using them however more as a means of tempting the horse to eat his oats, than as a main and solid stay in themselves. In the third preparation chaff should always be avoided, if possible.

Sect. 11.—Review of Training.

From the Previous Remarks it will be gathered, that the training and bringing out of the horse is a much more simple process than the corresponding treatment of the greyhound. At the same time there is room for much more skill, because there is less uncertainty, and the really good trainer has more chance of a return for his care than is the case with the canine pupil. In the horse, the trainer must certainly always take into consideration that some few of his charge, though capable of running to advantage, yet will not try their utmost; but with the greyhound-trainer this is a constant source of uneasiness, and his operations are continually cramped by a fear of its occurrence with every dog. With a horse of good blood and temper, the trainer may generally calculate with certainty upon his doing to-morrow pretty nearly what he has done to-day, and hence he has some guide in his operations; but not so with the greyhound, who is ten times more uncertain, and will throw overboard all his trainer's calculations, by refusing to try even when at his very best, in point of condition and general powers. The great thing to be avoided by the trainer of the horse is the tendency to be constantly extending him, for it is found that few horses will bear it without loss of pace; and when kept racing at one another they will lose heart, unless they are as stout as steel. Hence, the good trainer, when he is aware of the peculiarities of his horse, keeps him within himself, and will give him pace by occasional short and merry spirts, without taking enough out of him to produce loss of speed, or to destroy his relish for the race, which most generous horses delight in. He will study the peculiar temper of his string, and will in the course of training discover not only how they like best to be treated in their work, but what sort of a race suits each individual, whether they can run from end to end, or can only last through one short struggle; and upon the views thus formed he will instruct the rider on the day of appearing in public. The above remarks may be considered to include all that is necessary for ordinary training, when commencing with a horse purchased out of some stud where he has been condemned. It is not to be expected that many people will succeed like Mr. Parr, with a Weathergage or a Mortimer, but if these views are carried out, they may enable any amateur to understand the principles upon which his trainer is proceeding, and perhaps to distinguish between the rude attempts of an ignoramus and the successful efforts of an artist.

CHAPTER VII.

BREEDING.

Sect. 1.—The Stud Farm.

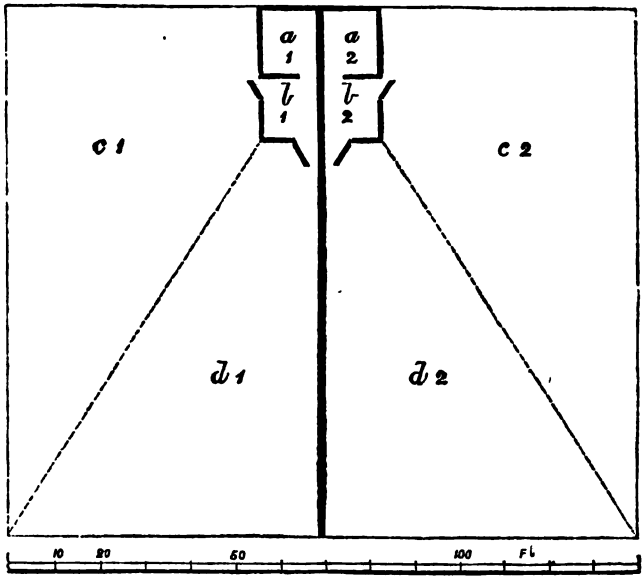
The Necessity for a Farm, with all the buildings suitable to a breeding stud of racehorses, is self-evident, inasmuch as the mares and colts are of that valuable nature, and also of such intractable dispositions, that ordinary accommodation would be insufficient. But even more do they require herbage of a peculiar kind, full of fine clover, yet free from the coarse grasses, and the land well drained, and of a sandy or chalky subsoil. The presence of these characters has made Yorkshire so prominent as a breeding locality, and its thorough-breds as well as its horses of inferior blood have always stood high in the scale. On the other hand, low, marshy situations are unfavourable to the development of the horse, and cause him to be coarse, unwieldy, and generally unsound. In selecting a breeding farm, therefore, the first, and the most absolutely essential, point is the soil, and by consequence the herbage. The surface should be undulating, but not very hilly, giving just sufficient alteration to teach the young stock the difference between uphill and down, and enabling them to acquire the power of mastering themselves over both variations of surface. The size of the enclosures may easily be altered if too large or too small; but it would be well, and would save much subsequent trouble and expense, if a farm could be found divided into small enclosures by banks and strong thorn hedges, and without deep ditches, which are always a source of danger to both colt and dam. Walls are very good divisions, if they are high enough, and the earth is raised against their foundations; but they are not equal to good banks, with thorn hedges upon them.

A Certain Number of Hovels proportioned to the mares must be put up, if they are not already in existence, and they may most economically be built by placing four together where four paddocks meet, or, if those are very large, by building in the middle of one, and dividing off the field into the four separate runs for the mares and foals. But though this plan is very commonly adopted from economical motives, it is not a good one, because the aspect of two of the hovels must be northerly or easterly, both of which are cold and rejudicial to young stock, besides being too shady during the early spring. It should, moreover, be remembered, that in the spring time when mares require the most grass they exhaust it the soonest, and that it will not be advisable to allot them too small a run, but rather to give each hovel a double one, in order that as soon as the mare has cropped one half close she may have a change into the other. The annexed plan of a pair of hovels, with yards and paddocks, will afford a good idea of the very highest accommodation which can be desired. They may be built of brick, stone, timber, or gorse, according to the taste and purse of the proprietor; and they will cost from 50*l.* to 100*l.* per hovel, when plain; and when ornamented, in proportion to the decorations. In all cases the size should be about fifteen feet by twelve feet for both hovels and yards, and the aspect should be invariably to the south, either facing that quarter or a point or two to the east or west of it. The door should never open in any other direction, because it often happens in early spring that the weather is too cold and wet to turn the mare and foal out, and yet the sun may be admitted by opening the upper half of the door with great advantage to the young animal, which requires sun as much as its mother's milk. When materials are very expensive, and money is limited, a hovel of twelve feet square may perhaps suffice; but the extra length will be well bestowed, and it should always be calculated on as desirable, if not absolutely needful. With regard to height, I should say that eight feet is a good and sufficient amount of head-room, for as these boxes are never air-tight it is not important that they should be very lofty, and if made too high they become very cold in the long winter nights, whereas if kept down to eight feet, the warmth of the mare's body raises the temperature sufficiently to protect the foal from an excessive reduction during a frost. In all cases the roof should be thatched, which material is cool in summer and warm in winter; and as these hovels are always at a distance from the main dwelling, it is not here objectionable on account of its tendency to burn. Next to thatch, tiles afford the most equal temperature; but they are not in this respect to be compared to it, though far superior to slates. The

walls may be of brick or stone, which are the best and most desirable materials, and equally good in every respect, the choice being given to that which is the cheapest in the locality. Boarding is a bad material, as it can scarcely be made warm and air-tight, and is liable to give cold by allowing small currents or draughts of air to play upon both mare and foal, which is worse than leaving them exposed to the open air. Of cheap materials, the best is gorse, when it is to be had, which makes an excellent and warm fence from the cold and wet, and is only objectionable from the room it takes and its liability to decay. It will, however, last for ten or a dozen years, and where the stud farm is only an experiment it may, and probably will, last as long as the owner preserves his taste for this particular hobby. In every case the doors should be wide and high, viz., seven feet six by four feet six, and all angles rounded off; to which precaution a roller on a door-post is a very useful addition, as a prevention from accidents. The yards should be walled-in, or divided off by a wooden partition, or a gorse fence, either of which should be seven feet high. The door to the hovel should be of elm or oak, and made in two portions, so as to allow the lower half to be shut without the upper one, in order that air may be admitted at times when the weather will not allow of the mare and foal leaving the hovel; a small window should be inserted in the wall, and the mangers made in the following manner:—In one corner a manger of good height should be placed for the mare, with a ring above, to which she may be tied; and in the other a lower one for the foal, by which arrangement the mare is unable, when tied up, to deprive her foal of his corn. The hay-rack is better made on the outside of the wall, so that the groom may be able to replenish it without entering the hovel; and this is easily effected by placing it as an excrescence on the outside, with a lid to turn the wet off, and with bars on the inside. This plan prevents all chance of accident from the gambols of the foal, which often lead it into mischief, if the arrangements are such as to give it any possible opportunity. In the third corner, unoccupied by the door, should be a water-tank, which may be of iron, and should always be replenished with fresh soft water from a river, pond, or rain-water tank. The floor should be paved with flints, stones, or hard bricks, and a well-trapped drain placed in the centre. The yard also should be paved in the same way, though this is not so essential; and it is sometimes kept replenished with burnt clay, which thus serves the double purpose of absorbing all the urine, &c., and keeping it free from putrefaction, which the clay has the power of doing. It is changed as often as it is saturated, and is then removed to a situation remote from the mares and foals. The partition between the two yards should be partially open, so as to allow the foals to become acquainted with each other before they are turned out together, which they generally are at weaning time; and if then strange to one another, they pine for their dams much more than they do when they have had the pleasure of a previous introduction. When the gorse is used it is applied as follows:—The door-posts and uprights are first fixed, and should be either of oak—which is best—or of good sound Memel fir; they should be about six inches by four, and should be fixed six feet apart, with three feet sunk in the ground. After thus fixing the framework, and putting on the wall-plate and rafters, the whole internal surface is made good by nailing split poles of larch, or other timber, closely together across the uprights, taking especial care to round off the ends when the appear at the door-posts. Thus the whole of the interior is tolerably smooth, and no accident can happen from the foal getting his leg into any crevice between the poles, if care is taken to nail them securely, and to leave no space between them. When this internal framework is finished, the gorse is applied outside, as follows:—It is first cut into small branches, leaving a foot-stalk to each, about twelve or fifteen inches in length: these branches are arranged in layers between the uprights, the stalks pointing upwards and inwards, and the prickly ends downwards and outwards. When, by a succession of layers of these brushy stalks, a height of eighteen inches has been raised, a stout and tough pole, about the size of an ordinary broom-stick, and six feet long, is laid upon the middle of the gorse, and so as to confine it against the split poles and between the uprights. The workmen kneel upon this pole, and by its means compress the gorse into the smallest possible compass, and while thus pressed down, and against the internal framework, it is confined to the latter by five or six loops of strong copper-wire. When this is properly done, the gorse is so firmly confined, and withal so closely packed, that neither wind nor rain can penetrate, nor can all the mischief-loving powers of the foal withdraw a single stalk. After fixing the first layer, a second is built

up in the same way, and when neatly done the exterior is as level as a brick-wall; but if there are any very prominent branches they may be sheared off with the common shears, or taken off with the ordinary hedging bill-hook. When it is desired to make the exterior look very smooth, a hay-trusser's knife is used; but the natural ends, though not so level, are a much better defence, and last longer than the cut gorse. In the interior the stalks sometimes project, and if so they must be smoothly trimmed off. The fastenings to the door should be free from projections, and nothing answers better than the common slide-bolt, which no foal can open. All the wood-work should be painted with coarse paint, or dressed with tar, which is the best for the purpose, as it effectually prevents the young stock from licking and biting the projections, a trick which often ends in confirmed crib-biting or wind-sucking. The yards should have two gates, one opening into each separate paddock, so that the one may be shut up, and the other left for them to use when turned out, and thus the grass allowed to make head, and a change permitted in the pasture. In the plan, *a* 1 and *a* 2 are the two hovels, *b* 1 and *b* 2 the two yards, *c* 1 and *c* 2 the two upper paddocks, and *d* 1 and *d* 2 those which are used as a change. By closing either of the two gates to the yards, the other will admit the mare and foal to the paddock into which it opens. In all open-timber partitions plenty of gorse or thorns should be inserted to make them good, in order to prevent the foal from slipping in his gallops, and getting hurt, or even cast under the bars. This accident has ruined many a foal, and the only certain prevention is to make up all timber fences by the above materials, one or other of which may always be readily procured.

A CERTAIN PORTION OF ARABLE should always be held with the grass land, in order to produce lucerne, rye, carrots, &c., for early spring-feed. It must be recollected that the thorough-bred mare is required to foal as early as possible in the year, because the produce takes age from the 1st of January, and with two-year-olds a month or two is of great importance. In few situations is there much grass fit for the mare before the 1st of May, and therefore cut stuff of some kind, with carrots or Swedes, must be given. These can only be produced economically on the stud-farm itself, and provision should always be made



for an early supply. Italian rye-grass is generally the earliest crop, and if the soil suits it should always be planted. Swedes do pretty well, but not so well as the Italian rye. Carrots also are useful; but in all cases both the carrots and Swedes should be cut very small, for fear of choking the foal, or even the mare, an accident which has happened to both on many occasions. Lucerne comes in soon after the rye-grass, and is an admirable food for suckling mares. Vetches are both too late and too heating, and are not nearly so good as Lucerne.

SECT. 2.—MANAGEMENT OF THE MARE.

In this place, in the usual order of things, it might be expected that I should allude to the selection of the brood-mare, and the best cross for her; but, for the sake of simplicity, it will be better to describe the general management of the breeding stud, and the breaking and training of young stock; and finally to consider the most desirable strains for breeding race-horses *after* all the various elements of success on the turf have been thoroughly investigated, as well as the steeple-chase, hurdle-race, &c. This is, to some extent, putting the cart before the horse; but as it will make this mysterious subject more intelligible, I prefer adopting the plan, to the apparently more simple one which I have rejected.

THE DURATION of pregnancy in the mare is eleven months, and, consequently, she should never be put to the horse earlier than the end of the first week in February; indeed there is great hazard in sending her before the middle or end of the month, as so many mares drop their foals a fortnight earlier than the full time. Should this occur with a mare stinted on the 8th or 9th of February, the foal is dropped in the last week of December, by which its age is increased one year, and it is ruined for all weight-for-age races, and in fact for all purposes. The mare should be allowed to be at large in the fields during the day-time, as exercise is of the greatest consequence to her health; and she should be carefully kept from the sight of any object which can terrify or distress her, such as pig-killing, or the sight or smell of blood in any way. Sometimes an epidemic causes a series of miscarriages, or premature slippings of the foals, and almost every mare on the farm is affected in the same way, and there seems to be no mode of preventing this untoward result. When the mare is near her time, she shows her state by the filling of the udder, and by the falling in of the muscles on each side of the croup, which the farriers call the "sinking of the bones." When these signs appear the mare should be constantly watched, in order that assistance may be given her if there is any difficulty in the presentation. The usual mode for the foal to come into the world is with both fore-legs first, and if after they appear the nose shortly shows itself, all may be considered straight-forward, and no fears need be entertained. Sometimes with a large foal and a comparatively small pelvis, a little assistance may carefully be given, by gently drawing upon the legs after the head is well down; but these cases are unusual, and with this natural presentation it is seldom required. If however, there is any other kind of birth, and the head presents without the legs, or the hind-legs first, or if the head is doubled back upon the body, assistance must generally be obtained, unless the man in attendance is more than ordinarily skilful. Turning is generally the expedient which is had recourse to by the regular practitioner, but it requires great care and skill to accomplish the operation without danger to the foal. As soon as this is born the mare should be allowed to clean it, and the secundines are removed by the attendant; after which the mare should have a little warm gruel, and, if very much exhausted, about a pint of strong ale (more or less according to circumstances) may be given with it. It often happens with the first foal that the mare will not take to it, and not only refuses to clean it, but actually denies it the proper nourishment from her teats. When this is the case the man should milk the mare and soothe her, and after her udder is somewhat empty, and she is relieved, she will generally allow the foal to suck. They should never be left alone till this has taken place, as it is dangerous to do so for fear of the mare doing a fatal injury to her offspring. Before the coat of the foal is dry, the mane should be combed all on one side; by which precaution that rugged unsightly look is avoided which it has if part hangs on one side and part on the other. For the first twenty-four hours, nothing besides warm gruel and a very little hay should be given to the mare; but when the secretion of milk is fully established she requires corn, bran-mashes, with malt, carrots, Swedes, Lucerne, or green food in some shape, according to the season of the year.

THE BEST TIME FOR THE ADMITTANCE of the horse is the tenth day after foaling, leaving nine clear days between the two

acts. I am assured by a breeder of great experience, that this is better than the ordinary mode of putting her to the horse on the ninth day. It often happens, however, that this would be too early, as where the foaling has taken place early in January, when if the mare were put to the horse, she could next time foal in December, a consummation to be carefully avoided. For this reason the visit is postponed; and this is one cause of the constant occurrence of barrenness in the thorough-bred mare, of which about one-third every year are sterile and profitless to their owners. Another cause is the over-use of corn, which keeps them in an unnatural state of excitement, and prevents that coolness of the system which is required for the highest state of perfection in the generative organs. It often happens that a mare will not stand to the horse while at hard work, not because she is injured by her duties, but because she is over-corned; and this condition can only be overcome by a long run at grass, which cools the blood, and allows of all the functions being performed without inflammation, which is the great *antidote* to successful impregnation. It is usual after putting the mare to the horse to take her to him every nine days, until she refuses him, when she is considered "stinted;" but many mares will go on taking him long after they are successfully impregnated; and this, therefore, though a good rule, is not by any means an invariable one. If the mare is at all confined in her bowels, which is seldom the case, on account of her diet, she should have a dose of castor oil. The ordinary aloetic ball is not well adapted for the mare while suckling.

Sect. 3.—Management of the Foal.

Handling the foal should be commenced as soon as he is born, because it is at that time that he is most easily rendered tractable, and regardless of the presence of his attendant, who should make a practice of rubbing his head, picking up his feet, &c., long before he actually wants to do anything with those parts. But if these acts are postponed till they are really wanted to be done, the colt is wild and unmanageable, and neither physic nor anything else can be administered without a degree of violence very dangerous to its welfare. The foal is very liable to diarrhœa, and it should at once be checked by a drench of rice-water, with one or two drachms of laudanum, which will almost always stop it if repeated after every loose motion. The sun should in all cases be admitted to the box, whether in winter or summer, and without it no young animal will long be in health. If the weather is very severe, with wet as well as cold, the upper half only of the door should be opened while the sun is out; but if the weather is dry, the mare and foal may be allowed to run into the yard; or if not very cold and frosty, into the paddock for a short time. By the end of the month the foal will begin to eat kibbled-oats, which may be given in its own low manger, and with the mare tied up to hers. As many of them as the foal will eat will do good; and it never happens, that I have heard, that a young foal will eat more than enough of this food, which is the mainstay of the young racer. Much of the success of this kind of stock depends upon their early forcing by means of corn; and as far as he is concerned, the mare as well as himself can hardly have too much, consistently with a continuance of health; but for the reason given in page 391, caution must be used in forcing the mare until she is decidedly stinted. When the mare is tied up the halter should not be longer than necessary, nor should it be fastened to a low ring, as it has often happened that the foal has become entangled in it when low, and has been ruined by its own struggles, or those of his mother. At six months old the foal is usually weaned, previously to which he should wear a light and well-fitting head-collar, by which he may be led about with a length of webbing attached to it by a buckle. This is more easily done before weaning than after, as the mare may always be made an inducement to the foal, and it will thereby be half coaxed and half led by a little manœuvring, whereas if entirely alone, the foal will struggle in order to escape, and will not so easily be controlled. Two quarterns of kibbled oats may now be given to the foal during the day, which, with the grass of summer, will keep him in high flesh, and by this time he ought to have grown into a very good-sized animal. By this treatment the foals are made strong and hardy against the advent of the winter season, during which time their progress is not nearly so fast as in the summer; and, in spite of every precaution, there are constantly drawbacks in the shape of colds, dysentery, &c. Feeding in this mode is the great secret in rearing racing stock; and though cow's milk, steamed turnips, &c., will make the yearling look fat and fleshy, you will never see that appearance of high breeding and condition which is given by corn, nor when put into training do they

pass through that ordeal in the way which corn-fed colts and fillies may be expected to do. At this age, when fed in this way, foals are as mischievous as monkeys, and great care should be taken that they have nothing in their way which can possibly injure them. Brooms, shovels, pikes, and buckets must all be kept away from their reach, and all gates and fences must be carefully put in order. Indeed, with every precaution, they will strain themselves in their play; but if all these points are not attended to, the consequence is almost sure to be fatal to life or limb. During the winter young racing stock should all be carefully housed at night; and their corn may be increased to three quarterns a-day as soon as the grass fails, with plenty of good sound old hay, and occasionally a few carefully-sliced carrots or Swedes. During all this time they should still be constantly handled and led about; and when removed from one pasture to another they should always be caught and led by the length of webbing. The absence of this precaution is a fertile source of accidents, while its adoption is only an instance of that constant handling which must be attended to even were no removal necessary. These remarks will carry on the treatment of the yearling to the time when he is broken-in and put into training. At this time—that is, in the second summer, and as soon as there is plenty of grass, the yearling should begin to assume the appearance of the horse, with arms and thighs well developed, and with a fair allowance of fat, which, though not necessary for racing purposes, is always an indication of high health, and will make its appearance on the ribs of a stout and healthy colt in spite of all the exercise in the shape of frolics and gallops which his high spirits induce him to take. During the early spring months this cannot always be expected, from the nature of the food; but after May the flesh ought always to be rather full and round than wiry and free from fat, which latter condition indicates a delicacy of constitution unfavourable to the purposes of the race-horse.

PHYSICKING the yearling or the foal is sometimes necessary, when he is getting off his feed, or is bound in his bowels, or his eyes are becoming inflamed, or otherwise indicating that he is over-corned. This is a very common state of things, and the remedy is a dose of the common aloetic ball, for which see the Diseases of the Horse, for the dose and mode of administration. About one-quarter of an ordinary ball is the smallest dose likely to be beneficial to the young foal.

CHAPTER VIII.

BREAKING.

SECT. 1.—THE STABLES NECESSARY FOR YOUNG RACING STOCK.

THE STABLING which has been described at page 376, as sufficient for ordinary racing purposes, will not answer for the first housing of colts and fillies, which require more air and room than older horses, as they are a considerable time in becoming accustomed to the warmer and darker stables suited to horses doing strong work. But not only is a large roomy box required for each colt, but there must also be a yard, or small paddock, in which they may be suffered to take that exercise which they cannot yet receive artificially in an amount which will maintain their health. The breaking is generally commenced in warm summer weather; and there is no danger in allowing the colt to be at liberty during the day, at such hours as are not required to be occupied by the breaker's instructions. It is necessary, therefore, to have a series of airy boxes, separated from one another in the same way as those already described, but of a larger size, being at least eighteen feet by twelve feet, and with a very free circulation of air. These are much better made open to the roof, as they are never used in cold weather for horses, and will then serve for any other kind of stock if required; but at all events they should now be as airy as it is possible to make them. Many people object to the use of litter at this period, as being different to the cool grass to which the colt has been accustomed, and recommend tan as a much better kind of material for the floor of the box. I am inclined to think that there is great reason in this objection, and that the latter article is less likely to produce that contraction of the feet which so commonly occurs in the horse in training. A shady paddock, with as soft a turf as possible, should be

provided; and here the colt may be turned out the first thing in the morning for an hour or two, and again at night for the same time, leaving the middle of the day for the breaker's manipulations. This plan also provides for the gradual alteration of diet, as the colt will always pick a little grass when turned out, and will only eat his hay during the long night; whilst his corn he has long been accustomed to, and will still continue to relish.

Sect. 2.—Leading Tackle.

Leading with the Cavesson on is the first thing to be practised, and it should be continued for two or three weeks without any further attempt at breaking, if there is plenty of time, and full justice is to be done to the colt. A roller is put upon the colt, and a crupper, with long hip straps, by the presence of which he becomes accustomed to a loose sheet, or any other arrangement of clothing in his subsequent work. With this tackle on, and long boots on his forelegs to guard against his striking them, the colt is led about the country, either by the breaker on foot, or mounted on a steady hack; and for a week he may generally be confined to soft turf, which will not require his being shod. Even on such ground as this he will be gradually accustomed to carts, waggons, droves of sheep, oxen, &c., and will daily acquire more confidence in himself and in his leader. No bit should be put in his mouth as yet, for its too early use while he is still shy and inclined to struggle, only makes him more timid, and by far less manageable than with the cavesson alone.

Sect. 3.—Shoeing

Shoeing must be commenced as soon as the colt is in a state to be taken on the roads, because it will often happen that he will be inclined to jump and plunge on the meeting of unaccustomed objects; and if his feet are unshod he will break the crust, and do that amount of injury which it will take many weeks to restore. It is better, therefore, to put some short shoes on his fore-feet; but his hind feet may still perhaps be left in their natural state for some time longer. I do not myself see the advantage of this delay, but it is very commonly practised with young racing stock; and with wild or badly-handled colts it is often necessary, from the greater resistance which they make to the blacksmith behind than before. The shoes or tips should be nailed on very carefully, and they should be very neat and light in their make; the feet also should afterwards be regularly examined, and the shoes removed every three weeks. It is a very common practice for the blacksmith to cut out the heels of these colts, but I am satisfied, that by the use of tips only the heels may be left in a state of nature, and will require little or no clearing out until the horse is full-shod, and the frog and heel protected from the friction of the ground.

Sect. 4.—Tying-up in the Stable.

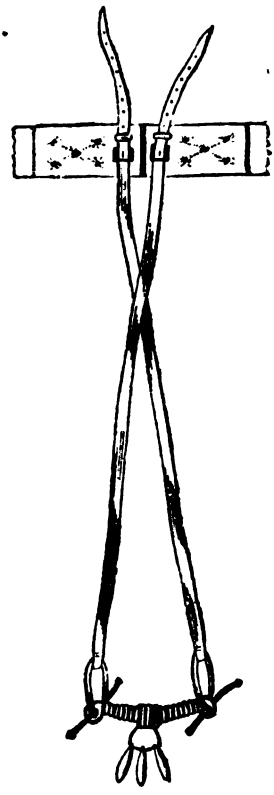
The Next Process is the Tying-up in the stall, which the colts may now be accustomed to, inasmuch as they have fully proved the power of the halter or leading-rein in their struggles to avoid passing objects; and they will not therefore fight much when tied-up in the stable. The head-stall should fit very closely, and the throat-lash be sufficiently tight to prevent the colt from pulling it off in his efforts to get free; for if the young animal finds he can effect his object once, he is a long time before he ceases to try it again. The colt is often very fidgetty; if so, he must be at once compelled to stand still, by the use of wooden balls attached to the fetlocks by leather straps, which soon accustom him to a steady position, from the blows which they inflict upon him when he struggles or moves rapidly from side to side. A breast-girth may also be put on as a forerunner of the breast-cloth; and it will also serve to prevent the roller, which is constantly worn, from getting back under the flank, and thereby irritating the wearer. All the ordinary stable practices may now gradually be taught, such as washing out the feet, dressing, hand-rubbing the legs, &c.; and the colt should be made to turn from side to side of his stall at the wish of his attendant groom, who may easily conduct the whole process without the aid of any regular breaker, unless the temper of the colt is such as to demand extraordinary skill and address; and even here the groom accustomed to thorough-bred colts is often a better hand than the colt-breaker, who is engaged in breaking all sorts of animals, and will not bestow sufficient time upon the valuable racing colts and fillies. Now, without full time it is impossible to bring these young things into subjection, and the consequence is that their tempers are ruined, and they are rendered unfit for the purpose for which they are otherwise well qualified. Their feeding is so high that they are full of spirit, and will fight to the death if they are made to resist by ill-treatment or hasty breaking; it is, therefore, more by coaxing and gradual leading on

step by step, from one point gained to another which is to be overcome, that this animal is vanquished, and made at last to yield his powers to the guidance of a young lad of perhaps twelve years of age, or even less.

Sect. 5.—Breaking.

Lunging may now be commenced, which will require the aid of a second hand, in order to compel the colt to progress in the circle by threatening him with the whip behind him. The cavesson, boots, roller, crupper, &c., are all put on, and a long leading-rein of webbing is attached to the ring in the nose of the cavesson, just as if the colt was going to be led out as usual. But instead of merely leading, the colt is made to walk round a circle on some piece of soft turf; and then when he has learnt to do this kindly he is made to canter slowly round, the assistant walking behind him until he will progress by himself, which he soon learns to do. As soon as he has gone round the circle in one direction a dozen times or so, he may be turned round and made to reverse it, which prevents giddiness, and also any undue strain upon either leg. This process is repeated at various times throughout the breaking, and is the best mode of keeping the colt quiet by giving him any amount of work on the canter or gallop. It is not, however, used for the same purpose as in the ordinary breaking of hacks and harness horses, where it is made a means of getting them upon their haunches; an alteration from a state of nature which it is not desirable to effect in the racehorse. On the contrary, it is often necessary to make him extend himself still more than he otherwise would, and the less he is upon his haunches the better. The bit, therefore, is never used in his mouth as a means of putting him back upon his hind-legs; whilst it is, on the other hand, used more to make the horse extend himself by playing with it, and slightly resisting its tendency to confine his mouth.

The Mouthing-Bit may now be put on, and its construction and form are of the utmost importance to the future delicacy of mouth which is so essential to the action of the racehorse. In no kind of horse is the snaffle-bridle so desirable as in the racehorse, in which a curb is always a means of making him gallop in too round a style; and yet when he pulls very strongly this is a less evil than to let him get away with his rider, and either bolt out of the course or destroy his chance by over-running himself early in the race. Hence it is doubly necessary to guard against making the angles of the mouth sore, for if once they get into that state they are almost sure to become more or less callous and insensible. But if during breaking, a snaffle of any kind, large or small, is used, this result is almost sure to occur, either in the horse's early fighting with his bit, or when "put upon it" in the stable. Instead of a snaffle, a bit without a joint is the simple remedy for all this, made in the form of a segment of a circle, and with keys as usual hanging



from its centre. This segmental form is better than the straight bit, upon which the colt is apt to pull on one side, and to get an uneven mouth, whereas, when standing in the stable, and the reins are buckled to his roller, crossed over his withers, he can never

do otherwise than get an even pull upon all parts of his mouth, whether he puts his lips close to one side of the bit or the other. This is a very important point in breaking all colts, and in racing stock it is doubly so, because of the necessity of preserving that delicacy of sensation without which they can never be taken round corners, &c., except by lying out of their ground, and thence losing a considerable distance. But with this bit the mouth is gradually made, and without producing soreness in any part, *which afterwards takes the bit;* and this is the great feature in its use, for as the tongue and gums take its pressure chiefly, so the angles of the mouth only touch it at the will of the colt, and it is when playing with it that they do touch at all, and then only to such an extent as to avoid pain to themselves. This bit, then, may be used on all occasions without fear until the colt is fit to take his gallops, when a strong snaffle may be substituted, and gradually supplanted by that small and fine kind called the racing snaffle, but which need not be nearly so small for the horse broken to the segmental bit as for one "mouthed" to the ordinary breaker's snaffle. After the bit has been put in the mouth, no attempt at first should be made to induce the colt to play with it; but it may be suffered to remain in the mouth while he is led about by the cavesson, and without any side-reins being attached. When this has been done for a day or two, the side-reins are buckled on, and are attached also to the buckles in the roller, crossing them over the withers. At first they may be drawn up very slightly, so as just to prevent the colt from putting his head into his usual position, and in that form he may be left in his box for an hour a day, besides the usual amount of walking out of doors with the bridle on. They may now be gradually tightened a hole or two per day, and also more so in the box than when led out, when the tightening should be very gradual indeed. Some colts very soon begin to champ the bit, and play with it, whilst others are often sulky for a day or two, and hang upon it steadily, with the intention of freeing themselves. All, however, at last begin to champ, and when this is freely done, the breaker may teach the colt the intention of the bit, by making him stop and back when out of doors, by its means. The rings on each side should be taken hold of evenly by both hands, and the colt made to stand or back by steady pressure, but without alarming him. Kindness and gentle usage, with occasional encouragement, soon accustom him to its use, and he only wants ten days or a fortnight in order to obtain the desired result of its presence in the mouth, which is called "getting a mouth," and which is merely the giving to the sense of touch in the lips an extra degree of delicacy. When this stage is completed, and the mouth is quite under command, so that the colt will either come forward or backward by drawing his head in those directions, with the bit held in both hands, the colt is ready for backing. During the whole progress of breaking, daily slow lunging and plenty of walking exercise should have been practised, so that the colt is not above himself, but is more or less tired each day.

BEFORE ACTUAL BACKING is attempted the saddle should be put on, and it should always be a roomy one at first, well-stuffed, and fitting accurately, so as to avoid all painful pressure. The withers especially should be closely watched, and if high and thin, the saddle should be proportionally high at the pommel. The roller has been hitherto the only kind of pressure round the chest, but it has gradually been tightened from time to time, so as to prepare the colt for the subsequent use of the girths which are required to retain the saddle in its place. This should be put on at first with the girths quite loose, and with a crupper in addition, because having already worn one, the tail has become accustomed to its use, and it often prevents the saddle from pressing with undue force upon the withers, which are very sensitive and easily made sore. The colt should be walked out and lunged for a day or two with the saddle on before he is mounted, so as to accustom the parts to its presence; and it is even desirable to increase the weight of the saddle by placing upon it some moderately heavy substance of two or three stones' weight, such as trusses of shot, or the like, gradually making them heavier, but never putting more than the above dead weight upon the saddle. When the colt has thus been thoroughly seasoned, he may be taken out and well lunged till he is tired, still having his saddle on; and during this exercise the breaker will occasionally bear considerable weight upon each stirrup, and flap them against the saddle, with the object of making a noise, to which the colt should be accustomed. It is a very good plan to have a leather surcingle made to go over the saddle, and to attach the buckles for the side-reins to this, instead of having them sown on to the saddle itself. When all is ready, and the colt is tired, by his lunging, &c., he may be taken into the

rubbing-house, as being close to the exercise ground, and there the breaker himself, or one of the lads may be put upon the saddle, using him, as in all cases in young horses, with great gentleness, and giving him constant encouragement by the hand and voice. Mounting is much better accomplished in the stable than out, and causes much less alarm, because the colt has been always accustomed to be more handled there, and is less inclined, therefore, to resist. The lad, or breaker, should get up and down again several times, and if the colt is good-tempered he will generally allow all this to be done without the slightest resistance. In mounting there should be very little spring made, but the lad may hang about the horse as if fondling him, and bear his weight upon the saddle; then place one foot in, and hang on steadily; when, if this is borne, the weight may be taken off for a minute or two, and then the lad may very gently and insensibly almost raise himself up to the command of the saddle, after which he may steadily turn his leg over, and is then seated. When the lad has sat quietly upon his back for a few minutes, the side-reins having already been buckled to the leather surcingle, two additional reins may be attached for his use, though the chief dependence at first must be placed upon the breaker himself who leads the colt, as before with the cavesson and webbing. With this the mounted colt is now led out, and walked about for an hour or more; after which he should be returned to the stable, and then the lad should dismount; and on no account should this be attempted at first out of doors, for it has happened that on getting off there has been a fight to get on again, which has resulted in victory to the horse, whereas in the stable it can always be managed, and with the thorough-bred colt it is seldom wanted elsewhere, until he is quite used to it. If there is no stable at hand with a door high and wide enough for this purpose, the colt may be mounted in the paddock, the breaker being very careful to engage his attention, and a third party being on the off-side to assist in keeping the colt straight and the saddle from giving way while the weight is being laid upon the stirrup. Most colts give way at first to this one-sided pressure, but they soon learn to bear up against it, and finally they do not show any annoyance at all. It will be found that any colt may be more readily managed by two people in a roomy stable than by three out of doors, where he is on the look-out for objects of alarm, and is always more ready to show fight; the only difficulty is the getting clear of the door, which should be wide and high; and if it is the contrary, it offers an obstacle to the plan, which must prevent its adoption. The mounted lad should at first sit steadily and patiently still, and should not attempt to use the reins, which might indeed well be dispensed with, but that few riders could balance themselves without holding something. I have found it a good plan to buckle them to the cavesson rather than to the bit, in those cases where the hands of the rider were not very light. The colt on leaving the stable often sets his back up, and perhaps plunges, or attempts to kick, which he seldom does in the stable, and less frequently in leaving it than when he is suddenly mounted in the field. If he does this, the breaker should speak severely to him, and either keep down his head or the reverse, according to whether he is attempting to rear or kick. It is for the latter vice only that the rider requires the rein to the bit, as it serves to keep the colt quiet if the bit is suddenly checked when he gets his head down before kicking. But in rearing, the lad is likely to do mischief with it, and on the whole it is better, I think, to avoid all chance of using it improperly, unless the rider is very cautious and accustomed to the business of colt-breaking. When the colt is quite quiet and submissive, after several days' leading-about, the lad may be trusted with the command of the bit, and may have the reins intrusted to him, the breaker still keeping the long webbing attached to the cavesson, and being always prepared to assist the lad, who, however, should now begin to try to turn the colt and stop him at pleasure, taking a rein in each hand, and using them wide apart, with the aid of his voice, and heel. As soon as it appears likely that the lad can control his charge the cavesson may be taken off, and the colt placed in a string of horses, which are so steady as not to give occasion by their example for the colt beginning to plunge. During the course of breaking it is always safer to keep the colt rather under-fed with corn, and until he is able to begin his cantering exercise he will scarcely bear an increase; but much will depend upon his temper; and if he is inclined to fret he will often lose flesh, and will demand more, rather than less, corn than usual. Bad-tempered horses, however, will always require light feeding during breaking, and extra time, as well as care, must be bestowed upon them. This subject is better understood now than it used to be, and fewer horses are spoiled than was

formerly the case; still, however, there is often room for improvement, and the number of horses which are mismanaged at this time is by no means small. Thorough-bred horses will not bear bad treatment, in general, though some are certainly of such savage tempers by nature as to require to be cowed; still these are the exceptions; and the vast majority will, by early handling, and cautious tackling and mounting, be broken almost without a single fight or difficulty of any kind. If they find themselves hurt by bit or saddle, or by the crupper occasioning a sore, they show their dislike to the pain by resisting, setting up their backs, and refusing to progress quietly; but, unless there is something wrong, they will submit to being backed and ridden much more readily than the colts of the common breeds, which have seldom had a head-stall on their heads till a few days before they are backed. I have more than once ridden thorough-bred colts in tolerable comfort within a week or ten days of their being first bitted; but it is a bad plan, and the longer time their mouths are allowed to become accustomed to the bit the better they ultimately turn out. It will be many months before they are to be depended on under any circumstances; and when they get an increase of corn they are almost sure to attempt some kind of horse-play; but the boys easily contend against this, which is very different from the determined efforts of a colt to dislodge its rider. When all these points are thoroughly accomplished in the breaking it may be said to be terminated, and the training of the two-year-old commences; the only things yet to be learned are the use of the spur and whip, which should never be employed except as a punishment for faults committed; that is to say, they should never be used as an every-day practice, for, though every colt should be accustomed to them, it is very seldom that the opportunity is wanting of administering them for some fault or other.

CHAPTER IX.

TRAINING OF THE TWO-YEAR-OLD COLT.

Sect. 1.—Preliminary Remarks.

A Dose of Physic will generally be necessary as soon as the breaking is over, and very often it may be required during its progress; but by the occasional use of a bran-mash, and by giving a little green food with the hay, in most cases there will be no necessity for its employment while the breaking is going on, and while the quantity of corn is kept purposely below the usual amount. As soon, however, as the breaker thinks he dare do so, the corn is increased to the usual quantity, and then a dose of physic, preceded as usual by two bran-mashes, will prevent that feverish condition which so often comes on after breaking, when the restraints of the stable are substituted for the freedom of the fields. The trainer will, of course, be guided as to the strength and frequency of his physic by the constitution and state of health of his colt, and will only exhibit it when necessary; though it should be borne in mind that there is always a tendency to inflammation, and especially of the eyes, in these highly-fed animals, and that the occasional use of physic is on that account more desirable than it would otherwise be. There is no doubt that all this might be avoided by giving them less corn, but then they would not be so well fitted for the purposes of racing, and therefore it is used with the full knowledge of its attendant evils. The next task for the trainer is to teach the young idea how to gallop to the best advantage, and in the best form, previously to producing that condition which shall enable his charge to last through a race as long, or longer, than his competitor.

Teaching the yearling or two-year-old is a long business, requiring at least six or eight months for its due performance, including the breaking. Few colts, however, will be thoroughly fit to try before they have been broken a year; and unless they are found to be dead slow, and at the same time "set" in their frames, they should not be given up as hopeless till then. The usual practice is to employ three months in the autumn in breaking and giving them the first rude lessons in the canter, with the use of the spur, &c.; then to let them recruit for a short time, with the administration also of a dose or two of physic; after which they are put into the trainer's hands, to be taught their paces,

for another three months—viz., to the middle or end of January, and generally till the frost sets in, by which time the experienced trainer begins to have some idea of their style of going, and to prognosticate their future form. When the weather is such as to make the ground too hard for strong exercise, the colts are generally thrown out of work, and physicked again, as well as put upon a lighter allowance of corn, with a few sliced carrots, and an occasional bran-mash. And this state of idleness lasts a longer or a shorter time, according to the intention of the owner to bring them out early or late in the season. In this determination he is generally guided by their appearance as to forwardness, and their style of going, which may be light, corky, and clever, fitting them for an early exhibition; or awkward, loose, and lumbering, requiring a much longer time to bring them out. Thus, in the month of January, the trainer must decide whether to go on with the training, in order to produce his colts in the early spring events, or to reserve them till the autumn; or, finally, to put them by, when very large and awkward, until the third year, or, if useless, for sale.

Sect. 2.—Clothing, Dressing, and Stable Management.

The General Teaching of young stock for racing purposes is conducted, as I have already said, upon the same principles for all; and it is almost always carried on with the whole team of yearlings, from August to November in breaking them, and from November to January, inclusive, in teaching them the use of their legs, and to face crowds of all kinds, with noise, &c., such as they will be sure to encounter in their future races. The task which is now under consideration is the mere giving them practice in the hand-gallop, without any reference to condition, though keeping them in a high state of health all the while, so as to promote their growth, and to encourage the due furnishing of their frames and muscle, for which purpose the following various arrangements and aids in the stable and out of doors will be required.

Clothes of the lightest description are put on as soon as the breaking is carried far enough to allow their use, and the hot weather has ceased; and they should always be first employed in the large airy boxes before bringing the colts into the stables devoted to training. As the nights become cool these boxes may be gradually closed as much as possible, so as to prevent the colts from being chilled, and their coats thereby rendered long and unfit for their subsequent work. By the end of October they will generally bear a warm suit of winter clothing in the airy boxes, and sometimes, in very cold seasons, an additional rug over their quarters. Hoods and breast-cloths are seldom added till they are taken into training; but when the cold weather comes on they require them in their walking exercise, as the change from their warm stables to the cold air of the downs is generally very considerable at this season.

Dressing is now actively commenced, and the colt has the undivided services of a lad, just as has been already described in the training of the racehorse. The body-dressing, hand-rubbing of the legs, &c., are all the same, and the only difference is, that greater care is requisite in the use of the comb and brush, which always occasions some resistance; but in the yearling will often, if used roughly, produce a frightful display of temper. Hand-rubbing is now especially necessary, as the trial to the legs is very great, in consequence of the weight of the lad, however light, being greater than the age of the colt qualifies him by nature to bear.

The Stabling must be gradually made more and more warm and close, but with the greatest possible prudence and care. Many an eye is lost from a want of due precaution in this particular; but, at the same time, unless the stable is tolerably warm, it is impossible to keep up the health and growth during the winter. In this first season, however, the temperature should be kept several degrees below that of the regular training stable; and it will suffice if it is warm enough for comfort, without much attention to producing excessive fineness of coat. The same may be said of clothing; it must not be carried to the same degree as for older horses; but all these stable practices must be gradually increased, and at this time one suit is generally enough in a moderately warm stable.

Sect. 3.—Galloping and Sweating.

Galloping is next to be taught, and at first the only way is to get the colt into a hand gallop in the way he likes best, not interfering at all, but allowing him to follow the trainer's hack at a steady pace, and without any other horses. Half a mile at a time is sufficient for this purpose, and a very gentle rise is the best kind of ground,

as it will always be found that the colt learns his gallop more easily up-hill than on level ground. At first there will generally be some difficulty with the mouth, and the trainer may allow the boy to come alongside him, when he will see whether the bit is adapted to his horse's state of forwardness and temper, and will either continue it or change it at his discretion. It is desirable in all cases that racehorses should have a steady pull at their bits, without which they seldom extend themselves, but the steadier it is and the less strongly they pull the better; and consequently it is a great object to see that the bits suit them, and are neither too sharp nor too large. It is only by attention to these matters, and by avoiding hurrying the colt in his gallops, that he is brought to his best, and made to go in the form which is most calculated to ensure success. The trainer, therefore, by riding by the side of the lad, instructs him either to give way a little or to take a stronger pull, according to circumstances; the former allowing the colt to extend himself more, and to go nearer to the ground, the latter making him gallop higher and shorter, and being only necessary in very long-reaching and loose-made horses. These gallops are soon taken in the string, and the yearling is then either placed with others of his own age or he is started behind older horses, and stopped at a certain distance, according to the instructions of the trainer, and before they have got to their top-speed. This plan answers very well, and is at first better than the putting a lot of young ones together, which being only half broken, are apt to set up their backs all at once, and to take example from one another so as to be quite unmanageable from mutual excitement. When, however, they are becoming tolerably handy in their gallops, and free from these unruly proceedings, they are better trained and galloped together, and without the presence of more than one older horse to lead the string, which a yearling or two-year-old is seldom fit to do. These short gallops are continued from day to day, seldom exceeding half a mile in length, of which two per day is the outside allowance during the first two or three months of this kind of early training or teaching. Towards the end of the time the colts may occasionally be made to lead the gallop, each in his turn, without an older horse before them, and at last they should be galloped abreast; until they will stand which trial of temper quietly, they cannot be said to have their education complete, independently of the training for the purposes of condition which has still to come. This running together will often lead to bolting and plunging, and therefore it should only be attempted when the colts have been doing good work, and after a preliminary gallop, which has taken a little of the steel out of them. Two should first be tried abreast, and if they stand this well, on a future day one or two others which have passed the same ordeal may be added; and thus they are made to do in private what they will hereafter have to repeat in public, with the addition of the shouts and noises of the race-course. If during this imitation of a crowd any of them break away, they must be ridden next time by a better horseman; and, if necessary, a man of light weight must be put upon the offender's back, since it is better to risk his legs than to lose all chance of success in future, by allowing him to get the upper-hand of his rider. Absolute racing at one another should be sedulously avoided, as neither the condition nor the temper is yet sufficiently perfect to allow of its being adopted, and the next three months will barely suffice for that object; indeed, it is never desirable to extend the colt to his utmost speed until he is to be tried, and if this could be deferred to his third year he would no doubt be all the better for it; but as the fashion now is to run races of great value with the two-year-old, it is a temptation which few breeders will resist.

SWEATING will seldom be necessary until the spring, but sometimes a yearling is very gross in himself, and is so fat and unwieldly as to be unfit for any kind of gallop. No amount of walking exercise and physic will reduce some very hardy colts, and the sweaters must be put on, or the legs will suffer to a certainty. When such is the case, the sweat should be run very slowly; and if a long two-mile hill, with a very slight elevation all the way, can be selected, there is little necessity for more than a canter, and even a trot will generally suffice, with the aid of plenty of clothing heaped on in the rubbing-house. If these slow sweats are repeated once a-week, or every ten days, and the pace is never increased beyond that above specified, they will generally succeed in getting some of the beef off, and will enable the colt to use his limbs with greater freedom, and less chance of injury. When once the fat is stirred by these means, it is astonishing how rapidly it melts away; but the great point is to avoid chilling the colt in his first sweats, for too often they are the cause of chronic

cough, inflammation of the eyes, swelling of the legs, &c., &c. If, therefore, they can be avoided at this time so much the better, but they may be adopted in preference to the continuance of a worse evil, in the shape of two inches of fat upon the ribs, and a proportionate quantity in the inside.

Sect. 4.—Shoeing.

Full Shoeing should always be adopted previous to any teaching of the gallop, and the short tips will not now suffice, on account of the battering which the heels would receive from galloping over an occasional piece of hard ground. The fore-shoes should be light and short, so that they are not likely to be torn off, and the hind-shoes may be made with or without light cogs, according to the state of the ground. The form called the concave shoe is that best adapted for training purposes with most feet. In every case the shoe should be removed and the feet pared at the end of every three weeks.

Sect. 5.—Training the Early or matured Two-year-old Colt.

At Christmas, or about the first week in January, I have already said that the colts should be practised in galloping alongside one another, and many people at this time decide upon having a trial of half a mile at light weights, so as to weed out the good from the bad. Very little dependence can be placed upon this, but still it is often done, and requires little preparation; as the distance is not sufficient to injure their wind, and as they are all alike in their condition, it makes no difference, as compared with one another. But beyond this, a trial with a three-year-old is sometimes required, and insisted upon, but without the slightest utility as a test of merit. The eye of experience is after all the only guide, and by its aid the good judge will generally prognosticate which is the most likely to come out in good form, and at what period he will do so; but often the worst colt will show the best at this time, and will deceive the inexperienced into the belief in his excellence, leaving the really valuable animal to show himself in his true form in the spring or following autumn. It is not generally the thick-set, quick, and pony-like colt which turns out the best ultimately, but the larger, more racing-like, and roomy animal, who at this time is perhaps all legs and wings, as compared with his well-furnished little companion. Six months, however, turn the tables—the legs and wings thicken, and become furnished with muscles, and the colt then looks, and is, vastly superior to his former more successful stable companion. If, however, a trial is to be had, now is the best time, as the frost will almost always prevent it later, either from the ground continuing hard, or from its occasionally interfering with that amount of exercise which can justify a trial. As soon as this matter is settled, the colts should all be put by for their future performances. Some being at once physicked, and exercised afterwards upon straw-beds, &c., so as to keep their condition as forward as possible, while others are entirely thrown by, and are reserved for the next autumn, or even the following spring. But we are now considering only one kind—namely, those which are intended to come out in early spring, and which are the most mature and forward in their development. These should be walked out daily as soon as their physic is set, and kept on the straw-ride at least three hours a-day, which may often be extended to four, if they are lusty and of good constitutions.

The Sexes are often kept separate where the numbers are large, and the stabling is suitable for the purpose. There are, however, disadvantages as well as advantages attendant upon the plan; for as two-year-old fillies and colts frequently run together, they are apt at that time to show the result of too rigid a separation. On the whole, however, I think they are better kept apart, and this is especially applicable to the fillies, which, from high feeding, are constantly coming "in use," and are then languid and dull, and unfit for work. They must always be eased a little at that time, as they are neither capable of bearing as much work as usual, nor willing to exert their powers. But the separation, if attempted, should be rigidly carried out; the stables should be quite distinct, and the exercise-ground at some distance, so that the wind should not waft the scent of the colts towards the fillies, or *vice versâ*. If this is neglected, they may just as well be in company with one another, as they are influenced by their sense of smell more than by the eye, and quite as much as by their auditory organs. When the fillies are galloped while in the above state, they can scarcely be made to extend themselves; and if brought alongside another, whether colt or filly, they lean towards it, and will not attempt to pass; hence the frequent variations in their public performances, and the difficulty of ascertaining the real powers of any filly, and especially during the spring, when they are

constantly succumbing to these sexual influences, from the unnaturally high condition in which they are kept.

Vicious Colts as well as fillies must be rigidly watched, and the first symptoms restrained by threats or by actual severity. Every lad when riding carries a light stick, which is capable of giving a pretty severe blow, and with this he may threaten his charge, and he may even use it over the shoulder or down the side, as occasion may require. The trainer, also, catches hold of the colt by the bridle, and speaks sharply, or occasionally administers a blow with the fist to the muzzle, of which mode of correction horses have a mortal dread. This is chiefly useful in kicking colts who are not to be restrained by the stick; but if the trainer holds them firm and gives this blow, they are quiet directly. Rearing must be kept under by the martingale, or cured by the administration of a severe blow between the ears with a heavy stick, or by the old plan of breaking a soda-water bottle full of water between the ears. But the great preventive is plenty of walking exercise, without which colts are always mischievous, and inclined to become vicious, and with it they are generally manageable and quiet. Another essential point is the constant supervision of the trainer or his head man, who will prevent those tricks which boys of all classes are inclined to play. Mischief is not peculiar to the colt, but is common to all young animals, and if not prevented will be indulged by the stable-lad towards his charge, and to the great increase of his tendency to vice, in consequence of his dislike to the practices of the lad, and his resistance against their continuance. For further remarks upon these points, and on stable vices generally, see the chapters on the Management of the Horse.

As these colts are designed for an early appearance in public, they should be ridden on to a steeplechase-course or race-course as often as possible; or, if these are not to be had, into market-towns or fairs, or any other gathering of people. Fairs are especially good introductions; and as they are often held upon common-land, the colts may be easily taken there, and yet kept out of harm's way. It is one of the great advantages of Newmarket as a training-ground, that races are so continually taking place there, and that colts may be easily shown the crowd, without much risk to either the biped or quadruped.

By February, the trainer will have obtained some insight into the constitution and temperaments of his colts and fillies and will begin to work them accordingly. Some will want strong work, with a vast deal of walking exercise, and occasional doses of physic; others less of each, and the very light-carcassed ones little more than walking-exercise, and that amount of galloping which will teach them their paces without being used as work. These last seldom require physic, unless they are out of health. The frost may generally be considered gone by the end of February, or the middle of March at latest, and during its continuance those colts intended for spring running have been kept at exercise on the straw-beds at such times as they were not in physic. They have been fed rather lightly, and are therefore hearty and ready for a few weeks' forcing, and for going through that kind of stimulating treatment of all kinds which accompanies training, and is in fact its very essence. Nine weeks are usually considered sufficient for the preparation of these young things, and they will seldom improve upon a longer amount of training without throwing them by. This time is divided into two preparations, between which a light dose of physic is given, occupying, with its mashes and the time necessary for setting, about a week. The very lusty colts may have the time equally divided, but the less stout ones should be allowed five weeks after their physic, and by consequence their first preparation is seldom allowed to last beyond three weeks; but if ten weeks altogether can be given them, the first portion may fairly be extended to the four weeks, as with the lustier colts.

The First Preparation is chiefly confined to slow work, with plenty of walking exercise, and, if necessary, one or two sweats. Great caution must always be displayed with these animals; but it is especially requisite at this time when they are first introduced to work as opposed to teaching. On no account should anything be done until a previous examination has satisfied the trainer that the colt is in high health and spirits; and every gallop should be carefully watched, and its effects at the time noted, so as to serve as a guide to an increase or decrease of work. Unless the colts are very fleshy, a sweat will not be required until the end of this preparation; but if they put on flesh during the first ten days, in consequence of the augmentation of their corn, they may have one in the middle, and, if necessary, one also at the end. But it must always be remembered that young colts do not bear to be drawn

fine, and the distance they run being short, their wind will generally last them; and that the act of stripping them of their fat stops their growth and interferes with the process of furnishing that is now going on. It is, therefore, only in extreme cases that sweats in clothing are necessary; but some stout and lusty ones will take a sweat of two miles, so as to scrape well twice during their first preparation. The pace is not required to be very severe, as the distance will almost always serve to bring out their juices, especially if a cloth or two is put on when taken into the rubbing-house. Training-ground with a long and gradual ascent is the great point in the sweat of the two-year-old, and when the trainer has the command of such an advantage, he need not fear any ill effects upon the understandings, unless he puts heavy sweaters on, when the hind legs feel their ill effects up hill as much as the fore-legs do down hill, and hence the disadvantage of using them on this kind of ground. Curbs, spavin, and inflamed fetlock-joints are as often interfering with training as injuries of the fore-legs, and must be as carefully avoided. The hill, therefore, should be very slight, and, as I said before, when it is used the sweaters and weight of lad must be proportionately light. If the sweats are not considered desirable, moderate gallops of from half to three-quarters of a mile, and at a steady pace, may almost always be given; and they may average about three times a week, with the addition of shorter spirts on the intervening days for the purpose of improving the style of going and giving quickness and smartness of stroke. The duration of the walking exercise at this time may vary from 2½ to 4½ hours a day, divided into two portions, varying in length according to the weather, which must always be allowed to regulate proceedings in this variable climate. In this way the three or four weeks of the first preparation are occupied, and at the end of it the dose of physic is given as already mentioned.

The Second Preparation commences as soon as the physic is throughly set, which is given in the interval between the two. I have already said that some few colts will not require this, but if they do not have the physic they demand a week's quiet, and two or three bran-mashes, which to some washy constitutions are equal to physic. By many persons it may be supposed that light carcassed-colts, of blood not very stout, will be brought out with a shorter final preparation than the lusty and thick-made colt; but this is not the case, because they do not bear the same amount of work per week, and it must be distributed over a greater space of time, and increased with great care. Hence I have advised that these animals should have four weeks allowed after their dose of physic, and for their second preparation, and it will be found that even then less progress has been made with them than with those which will bear a little more hustling. It is true that there are, again, extreme cases of lustiness in which this shorter time will not suffice; but the average of stout-blooded and sound colts may be prepared in the four weeks, if they have gone through their first preparation without showing evidences of failure in their legs or constitutional powers. As soon as they begin their work, the whole of the colts and fillies for the first week are prepared for sweating, by giving them every other day a smart gallop of half or three-quarters of a mile, and an occasional spirt besides, to keep up their quickness. Plenty of walking exercise is still used, and the stable dressing and hand-rubbing must now be diligently practised. Some of the most forward colts will require a deal of work, even more than the above allowance, in order to keep them within themselves, and to do justice to their powers; others, again, will not require so much; but this, as I before remarked, must have the eye of the master of his trade to regulate it according to numerous fluctuating conditions. At the end of a week or ten days, usually the former, all may take a sweat, which is often the first—that is, when it has not been deemed necessary during the first preparation, but in almost all cases it will now be required. A sweat in clothes, however, is by no means invariably to be attempted, even at this time, for the previous work will in many cases reduce the colt so that it is quite evident he does not require it. But a sweat in some form—that is, a long gallop of two miles at a steady pace, is almost invariably to be now ordered, and by its effects the repetition at a future time, or otherwise, must be decided on.

The Feeding of Two-year-old Colts is by this time conducted pretty nearly the same as in the aged horse; for as he has always been reared on two or three feeds of corn, the increase to five or six, *with work*, will generally be borne with impunity. The same quantity in the horse unaccustomed to this kind of food would be sure to produce inflamed eyes, swollen legs, &c., but during the six or seven months from the commencement of breaking until

now, the colt has gradually been fed with a more liberal hand, and will at this time generally bear five quarterns of oats per day, with seven pounds of hay. Beans and peas should never be given to two-year-olds, unless they are very washy indeed, and inclined to scour; even then they will seldom do good as a regular feed, and can only be recommended for particular occasions—as, for instance, when a colt scours for a day or two just before his appearance for a particular race, then a few beans may be given; but a continuance of them will always lead to disorder of the digestive organs.

The Continuance of Galloping and sweating after the first week, and the amount of each required, will be the study of the trainer; and he will be guided, as in all cases, by the effects of those previously gone through, always remembering that an over-trained horse is not only injured at the time, but is the worse for it ever after, more or less according to his age, constitution, or temper. Hence it is a fault on the right side if young colts are brought out too big; and as they will seldom injure themselves by the distance they run, there is not the danger on that account which is incurred by the older horse in two or three-mile struggles when unfit; after all, the races of two-year-olds are almost always in the nature of trials, and few masters would like to sacrifice the future prospects of their young stock, even with the certainty of bringing them out in such a form as to secure their races. It is better, therefore in all cases, to avoid the risk of overworking them, and to have them brought out a trifle too big, although thereby they may not be in such a full state of preparation and fitness as might possibly be effected by drawing them finer. All this, however, depends upon the future intentions of the owner and his trainer, for by this time they have often decided that certain colts will be useless except as two-year-olds; and that, therefore, considerable risks may be run with them, in order to get the lengths of other horses in public, or merely to win what they can in their then form, believing that they are not likely to train on. Many such animals are brought out each year, and are thus made use of, though there is also no doubt that their not improving upon their two-year-old form is more frequently a consequence of their owner's determination thus to employ them, than that he has decided upon it prospectively. The usual practice is to select the most approved animals in the string, and use the less valuable ones for the purpose of public trials and competitions; but it sometimes happens that mistakes occur, and that those which are nursed up turn out far inferior to their stable companions which have in the meanwhile been sacrificed to them.

Sect. 6.—Trials of the Two-year-olds.

About a fortnight before the race the colt may be tried, and this should be arranged to take place a clear week after sweating, and with a previous day of comparative rest; that is, with ouly a short spirt to make the animal just "blow his nose." In every case, on the night before trial, the colt should be set as for a race; that is, if he is not very washy and light in his carcase; if so, and the trial is pretty late in the day, he may be left till very early the next morning; but if very early, he should always be set over-night. The trials are usually for half a mile or five furlongs, and with 8 st. 7 lbs. up. If a three-year-old is made the trial-horse, he will generally be expected to carry that weight, and to give the colts at least 2st. and the fillies 7lbs. more. But it is s ldom that a first-class racehorse is used for the trial-horse, and then it is not safe to give more than half this weight if any reliance is to be placed on the result, and unless it has been ascertained very lately that the trial-horse is in good form, when an allowance of 2st. may be ventured on with some degree of advantage. In the first place, the race ought to be run honestly and truly, and, in the second, there is a great necessity for the trial-horse being fairly beaten, if possible, and it is better that he should be beaten on his merits than by sufferance; and in spite of all instructions to lads, or even professed jockeys, and of the information received from them, unless they are ordered to make the most of their respective mounts, no reliable dependence can be placed upon the result. Every rider of a trial-horse has his bias either in favour of the horse he rides, because he rides him, or towards his opponent, because he hopes to ride a winning race upon him; and therefore he will, according to his wishes, very naturally lead himself and his master astray. The effect, however, of weight is well known, and great encouragement is afforded, if the beating has been on the side of the young ones receiving 2st.; but if, on the other hand, they have been beaten by the three-year old giving them 2st. (or if he is a colt trying fillies, 2 st. 7lbs.), it is not to be supposed that they are then

in a form which is likely to lead to victory. Few young colts bear constant trials, and the best plan is to try them at this time all together; putting as good men or lads up as can be selected, and depending upon this one fly for all present purposes. The three-year-old performer has given the line as far as the public performers are concerned, and the result shows the respective merits of the colts in reference to one another, if the trainer has carefully watched their performances, and has seen how they got off together and how they finished, which he can easily do in this half-mile struggle, either by being well-mounted or by being on an elevated position at the finish. After this miniature race some of the young ones are sure to be off their feed, but by a litle care they generally take their corn in a few hours, if it is not left in their mangers, and if they are in the meantime allowed their water as usual. The colts and fillies should be at once marched off to their ordinary exercise ground, and there clothed and walked as usual, so as to make as little fuss as possible—which, by the way, is a fertile source of irritation to them. Quarrelling in a loud voice among the lads about the comparative performances of themselves or their horses should never be permitted for a moment, and at this time is worse than usual, because these young animals are already sufficiently nervous and excited from their first real struggle; for up to this time all their gallops and sweats have been conducted upon different principles, and they have never before been really made to feel their powers or weakness.

Sect. 7.—Conclusion of Preparation.

Prior to the race the colt is treated in the same way as for his trial, and should be set early or late, according to his constitution. The last sweat is often given a week before running, but in light colts, and especially in fillies, it may be given ten days beforehand; that is, two or three days after the trial. Gallops and spirts, &c., will still be necessary, and must be ordered as indicated by the condition, with somewhat less of walking exercise than before, but not such an alteration as to make the colt fractious from being above himself. Quickness is essential to the short courses which they have to run, and too much walking is no doubt injurious to that quality. If, however, the legs are not capable of bearing a proper amount of galloping exercise, its place must be supplied by a little more walking than is otherwise desirable.

Sect. 8.—Directions in Running.

In all cases the trainer and owner must decide upon what is to be done with the colt in the race; whether he is to be made much use of, or only put in to get some kind of estimate of his competitors without actually distressing him. But, usually, the orders are to win, if it can be effected without over-pacing the colt, and without the use of the spur and whip to any extent. If, therefore, the jockey finds that he is at once outstrided, he is generally ordered to pull up, or at least not to persevere; but if he has a chance, and the stake is a good one—if also the colt is not engaged in any subsequent race of more importance, the jockey may be allowed to use his judgment in winning if he can, even with a struggle and the use of the spur. All this, however, depends so much upon the ever-varying circumstances of each case that no rule will apply; and at the same time, as it is notorious that these two-year-old performances are generally in the nature of trials, there is no impropriety in giving orders to the jockey to pull up, and more especially as, from the nature of the race, it is never made a means of betting to any great extent. The difference, therefore, is essential between this and the running a horse for the sole purpose of getting him beaten, either for the sake of the betting-book or the subsequent handicap.

Sect. 9.—Management after Running.

After the race, the colt or filly is usually again more or less upset, both by the excitement of the contest, and also by the change of quarters, and the presence and noise of the crowd. It will generally be the best course to put him by for some little time, giving a dose of physic in a few days afterwards, and putting him upon lighter food, with some Lucerne or Italian rye, or, if it is procurable, some ordinary cut grass. A few handfuls of either will freshen the colt wonderfully, and do him much good in general health. During their being allowed, however, no work should be given, but the colt should be put into a large and roomy box, and allowed to exercise himself there a good deal with two or three hours' walking exercise, but no gallops. According to the performance in the race will be the decision as to his future course; but in any case he will lie by for a couple of months, and will then grow, and furnish himself with a fuller display of muscular development. Sometimes, with

second-rate colts or fillies, it is determined to run them again and again, but always with the certain sacrifice of the future form to present success. In this way, during the last season, Ellermire and Jack Sheppard ran fifteen races each, and Cimicina nineteen, being seven times first and five times second out of that number, and beginning on the 7th of March, after which she ran in every succeeding month but June, July, and November. Lord Alfred even exceeded this, running twenty-four races in the season, and winning nine of them. Such instances, however, are not common, and few colts or fillies of that age would stand such constant work even for one season. If the colt has to appear in the autumn, he will have to go through the same ordeal as before, beginning three months before his race; but if he is to be reserved for his three-year-old performances, he is better entirely out of work until the end of August, during which time his clothing should be gradually removed and he should be allowed a roomy loose box, and a paddock to run in; giving him, however, three or four feeds of corn per day during the whole time. In this way he is freshened in constitution, and is prepared to undergo his more severe ordeal—viz., the training for the next year's running as a three-year-old. One precaution should here be given—that is to say, the owner should be reminded that wherever the colt has been thrown out of work and laid by, he will require the cavasson and a lunge or two before he is again backed. Idleness causes all sorts of fancies and tricks, and if the lad was at once put on the colt's back after a short lying by, it would often lead to his being kicked off, and to the commencement of tricks, on the part of the colt, which are more easily prevented than cured.

CHAPTER X.

TRAINING THE THREE-YEAR-OLD.

Sect. 1.—General Remarks.

By Training the three-year-old is understood the preparation of the colt for racing as a three-year-old, in his fourth year. All racehorses take their age from the 1st of January, and consequently every one described as a three-year-old is in his fourth year, and every two-year-old is in his third year. If the colt has not been broken and trained for two-year-old races—that is to say, if he has passed his second year in idleness, he is always taken up early in his third year, that is as soon as his coat is likely soon to lose its roughness, which it may be expected to do in May or June at the latest. If he is allowed to remain until the summer-grass is well up, he gets so fat and gross as to require extra sweats to reduce him, and not only that, but in breaking he knocks his legs about, from the weight of his body, more than need be the case, and much more than is desirable. On all accounts, therefore, breaking should commence in May, and may be conducted as described for the yearling in the second year of his life, and when preparing for his two-year-old races. In many cases it is possible with the colt which is broken in the spring of the year to get him ready for trial, either in public or private, in October; and such is often the practice when the colt turns out handy, and is easily brought to his paces, and into good condition. In all respects he is managed exactly as described in the ninth chapter, and must be treated just as cautiously in bringing him into the stable, and in using him to his work. The only difference which may be made is in the number and length of the gallops which can be given *towards the end* of the preparation, for at first it must be just as gradual, and as carefully increased. The sweats of the two-year-old in the autumn may be half-a-mile longer than in the spring, and he may be used a little faster in his gallops, though the distance still should not often exceed three-quarters of a mile, and will seldom quite reach that length. The trials are also bad in the same way, but the three-year-old trial-horse can now very seldom give more than 21lbs. to colts, and 2st. to fillies, the difference between a two and three-year-old being greater early in the year than in the autumn. With these remarks it may be considered that this part of the management of the colt has been got through, and that he has been tried to be good enough to persevere with him for an early three-year-old race—that is to say, in the March of his fourth year, he being then a three-

year-old. In order to effect this he must have a preparation of at least nine weeks' regular work, divided, as in the younger horses (described in Chapter IX.), into two preparations; generally giving, also, physic as there ordered.

SECT. 2.—STRAW-RIDES AND TAN-GALLOPS.

As the frost is a general accompaniment of this season of the year, it is impossible to train horses without a straw-ride, or tan-gallop, if they are intended for an early appearance. Indeed even for the date of the Epsom Meeting, in the end of May, these essentials are generally in request, for the length of preparations required for the severe pace at which the Derby and Oaks are run is such, that less than three months' constant work will seldom suffice; and as the frost is not often over in the month of February, no dependence can be placed upon the natural turf until the middle of March; and even during that month training is often impracticable on any other surface, as was the case during the spring of 1855. The straw-ride is generally made by using the long litter of the stable laid down round a large paddock; but though the use of this is superior to the hard ground, it is not sufficiently elastic to allow of a good gallop, and the horses must be kept to a three-quarter speed, and even then are often injured by their slipping, or by the sharpness of the angles round a small enclosure. A tan-gallop, however, made permanently on a course, three-quarters of a mile in circumference, will admit of any speed short of an actual rally as in a race; and a horse may be made to extend himself well enough for anything but a final preparation upon this surface. It is the greatest improvement of modern days in training; and when first used by Lord George Bentinck, gave him a considerable advantage over other stables in the early part of the season. It is a questionable point, however, whether its use is not attended with the disadvantage of shortening the horse's stride, and altering his gallop; and for my own part, I am much inclined to think that it has that effect, and that though it improves the early form of the horse, it destroys to a certain extent that elastic and smooth style of going which is the perfection of the racehorse. No thickness of tan, entirely does away with the hard substratum of frozen earth; nor is it like the elastic sod in receiving and resisting the stroke of the hind-legs. It becomes a question, therefore, if this is true, how far on the whole it is useful; and my belief is that no horse should be fully extended upon tan while the frost lasts, but that he may well be sweated and galloped at near his top speed, provided that he is never fully extended.

SECT. 3.—FIRST PREPARATION.

Supposing the colt to be getting ready for a Derby exhibition, he will have been tried in October or November, then put out of work for a month, or until January 1st, giving him a dose of physic after his trial, with a few carrots and mashes. By the 1st of January he may be set to slow work again, first taking the precaution to lead him out on the straw-ride with the cavesson on, if the weather is frosty; and, at all events, to use the lunge if he is inclined to be fresh, before putting up his exercise-lad. In frosty weather horses are always more inclined to set their backs up in play, and at the same time they are more likely to do themselves or their riders harm; hence the necessity for extra caution at that time. He will now have two months to get fit for an appearance in March; and this period may be divided with advantage into two preparations, leaving the third or final one to the time subsequent to his private trial or race. Whatever may be the exact time of the race in March, the two preparations may be so arranged that there shall be from four to five weeks for the second, during which the work may be of that character, with regard to severity and pace, that the wind shall be thoroughly free, and the frame divested of its fat. This generally leaves about four weeks for the first preparation, occupying the whole month of January, and perhaps the first week in February; and after this first preparation comes the dose of physic and the week's rest as usual. During this time, if the weather is open, and the colt is pretty forward, advantage should be taken of the ground being in a fit condition for a gallop, to send the colt a sharp burst or two over three-quarters of a mile, and also to sweat him as often as is thought desirable; but, as sweats can be managed pretty well over the straw-ride or tan-gallop, they need not be altered from the day otherwise fixed upon in due course. With gallops it is different, and some concession must be made to the state of the ground which should be used when fit for the purpose, if the colt is sufficiently forward. It must be remembered, that when once a long frost sets in, it is often of six or seven weeks' duration; and this is a long time for a hearty colt to be without such a spin as shall open his pipes

thoroughly, which nothing but a smart and brushing gallop will do. If, therefore, any opportunity on the eve of a frost is suffered to slip by it cannot be recovered, and by so much is the colt put back in his preparation. In all other respects, except the triflingly-increased length of the work done, this preparation is similar to that of the two-year-old, as given in the last chapter.

Sect. 4.—Second Preparation.

The Physic having been given as usual, and the colt entirely recovered from its effects, may now, if the weather is open, be put in as strong work as his trainer thinks he can bear. At first his gallops will begin with three-quarters of a mile, in which he will take his turn in leading with the others, if he is not very much averse to that position in the string. All the colts, however, of every age, should be made to lead occasionally; for unless they will do so they are never capable of winning a race, because they will not leave their horses when called upon, in order to pass the winning-chair first. This, therefore, should be attended to, and they should take their turn in front, one after another; though there are often met with instances in which this position is preferred, and then, in the general way, it may be conceded to these animals when the rest of the string are equally good in any situation. Sometimes, also, the fretfulness in company is so great that the colt can hardly be done justice to except by keeping him by himself, and giving him all his work, whether walking, galloping, or sweating in solitude. It is true that such an animal is doubly excited when he comes to the post, and if this irritable condition could be worn off by any moderate time spent in waiting and gradually accustoming him to company, it would be better to do this. But often in spite of all care, and of every attempt to remove it, the irritability continues, and the only remedy is to train in solitude, and to trust to subsequent careful treatment for the removal of the bad effects of the race. It is not so much the one act of irritation which upsets a colt as the constant and daily fidgetting and sweating incurred in training him among a lot or string; and hence it is that the necessity exists for removing him into quiet, if he is of this temperament. It is a great misfortune and drawback, and few horses of this kind are able to do much on the turf; but with one of good breeding and fine frame, the breeder will generally like to persevere until he has had an opportunity of trying his actual form.

The Continuation of Work under this preparation is to be very much on the principles laid down in the last chapter, adding about a quarter of a mile to the gallops, and one mile to the sweats, which may now be of three miles in length, and should not be given too early in the morning on account of the cold. The same varieties in temper, constitution, and health will be met with as in the two-year-olds, and will require constant modification in the treatment; but, on the whole, the difference from the plans described in the last chapter is only in degree, the principles being identical. Up to this age, there has been very little occasion for practising the colt on any surface but a dead level, or slight ascent, as very few half-mile courses are of any other nature; but now it will be necessary to give him or her, as the case may be, some practice over slight descents as well as ascents, because in many courses—such as at Epsom, for instance—there is a considerable variation in this particular; and unless the colt is galloped over similar ground, he will be sure to be alarmed and thrown out of his stride at a time when such an event would be a certain prelude to defeat. The gallops, therefore, but not the sweats, on account of the weight of clothing, should be over training ground of the same character, being partly level, partly down-hill, and finishing with a slight rise. Every precaution should be taken against holes, ruts, &c., which are fertile sources of strains and break-downs; and indeed it is maintained by some experienced trainers that the latter accident never occurs except from uneven ground. This, however, it is impossible to prove or disprove, for no ground in the world is perfectly even, and therefore in case of such an accident occurring it may always be alleged, without fear of contradiction, that the ground was the cause, from its uneven nature. But as I have seen many times a break-down actually happen on a part of a course where it was impossible to detect the slightest unusual inequality, I am satisfied that it is sometimes from other causes, and I believe from the muscles losing their tone in consequence of being over-taxed. The last sweat is generally given a week before running, and it is usual to make it pretty severe; but in this, as in all other cases, the discretion of the trainer must be called into play. Generally, however, the increase of age allows of an extra degree of liberty being taken, and there is not that

excessive degree of caution to be observed as with the early two-year-old. The gallops may be smart during the last week, and on the second day before the race a rattler should be given, so as to open the colt's pipes well and make him blow smartly, but not so as to distress him. If he comes round from this thoroughly in a few minutes, and is lively afterwards with a bright eye, and without any appearance of fatigue, it may be conjectured, in accordance with other signs of condition, if existing, that all is well, and that the race will be borne with impunity, and contested with as much vigour and lasting quality as can be got into the colt without a longer preparation later in the spring.

Sect. 5.—Trials.

A fortnight, or perhaps even 10 days, before the race, and generally the day before the last sweat, a trial may be had in private with all the three-year-olds which are forward enough; and among them there is generally a trial-horse which has been out in the autumn, and has thus got the length of some one or more dreaded competitor, or, at all events of some colt or filly whose form is well known as compared with this anticipated rival. These being all equally prepared, are started and tried over a mile, or, at most, a mile and a quarter, which is quite as far as this short preparation will allow; and according to the result is the opinion formed of their qualities. This trial may be supposed to take place early in March if the weather will permit; but as there are few races of importance for three-year-olds alone until April, it can only be intended to run these forward colts or fillies in mixed trial-stakes or in handicaps in the month of March. For this purpose a well-known trial-horse must be obtained, which has been run in one or more handicaps at a known weight; and he must be weighted in this trial accordingly, giving as much as, or rather more than, he would do in the actual race if engaged. The reason why he should give more weight is, that the distance is generally less than that which is to be actually run on account of the want of preparation, and which has hereafter to be made up. Now, it is well known that it takes a greater allowance of weight to bring horses together in a short race than over a longer distance, and therefore it is now necessary to give the superior trial-horse a little more than his specified weight. With these remarks the subject may be concluded, as the final preparation for the subsequent three-year-old races in no respect differs from that described in the sixth chapter, except that the sweats are usually limited to three miles, or three miles and a half, and the gallops to a little over the distance they have to run, which varies from a mile to a mile and a half, or in some of the handicaps, to two miles and upwards.

Accidents.—During the course of all these preparations numberless accidents will occur, such as sprains, breaking down, curbs, blows, &c., &c.; together with diseases of the limbs, as spavins; and of the general system, as distemper or influenza, strangles, &c., &c. All these will be found treated of under the General Diseases of the Horse, and may be managed as there directed. For further observations on Feeding and Watering, see the same article.

CHAPTER XI.

THE EXERCISE BOYS, HEAD GROOMS, AND JOCKEYS.

Sect. 1.—The Boys.

The Management of these little bipeds requires nearly as much experience as that of the quadruped whose training I have entered into at such length. In their selection, also, some power of discrimination is required; for there are many lads cut out by nature for this pursuit, and others again who would never learn the trade so as to be sufficiently proficient to ride an ordinary gallop. The chief points requisite are—first, neatness and compactness of frame, with small heads, light bones, and altogether an under-size, as compared with other lads of the same age; secondly, a certain amount of intelligence, but of that steady old-fashioned kind which is now so seldom met with, and which leads to a concentration of the bodily and mental powers upon one object: in other words, there should be "an old head upon young shoulders." It is impossible to be always on the watch for tricks; and, in spite of every precaution, a thoroughly mischievous lad has the power of spoiling the horse under his charge, and,

what is worse still, of corrupting by his example his stable companions. Hence, great caution is required in the choice; and for this reason lads are selected who are born of fathers brought up to the same trade, and thoroughly imbued with a fondness for the vocation, and with its importance. Without this last feeling in the lad he will never take kindly to the business, and with it he will soon learn to make himself useful. The age at which these lads are likely to be serviceable is generally from eleven to fourteen, before which time they seldom are bold or strong enough to undertake the really arduous duties of an exercise or stable-boy. It is true that they may often be put to rub legs, or do any other odd jobs about a stable, at a much younger age, but these early lessons are better given in the hack-stable, or in any other than that of the racehorse. Indeed in most cases boys of that age, if brought up among horses, are quite handy with them, and can ride pretty well, and perform any of the usual stable offices in an ordinary way. When this is known to be the case, and the boy is of proper size, intelligent, active, industrious, and capable of riding an ordinary horse, he may as well be articled to the trainer at once. After this he has to be taught all the ways of the training-stable—the hand-rubbing, the careful dressing, &c.; and then he may be put upon an easy horse to ride, and gradually and carefully instructed in the mode of holding him, without making him pull, &c., &c. He should be put in the middle of a string of horses, and instructed to keep his place in the gallop, and on no account to get nearer to his leading horse than when he started. The trainer, or his head groom, will undertake this task, and will see that the lad sits properly on the saddle, with his stirrup-leathers of the right length, his feet well home in them, and his knees in their proper form, and sufficiently forward on the flaps of the saddle. He will always have to caution him to keep his hands down, which every one instinctively gets up when learning to ride, but which, on the training ground of all places, should be kept as low as possible, and on each side the horse's withers, with a rein in each hand, and the off-side rein in addition held in the left, so as to steady both by lying upon the withers. He will instruct him in the use of the knees, which are the main agents in keeping the seat, and tell him to keep his toes in towards the side of his horse, and his heels down. He will also explain to him that he must not attempt to confine his horse too much by pulling dead against him, but must give way to his mouth, and only use his power just enough to keep his horse in his place, which he will do better by humouring him a little, and giving an occasional pull, than by constantly hanging on the bit, which irritates most horses, and makes them more inclined to pull than to give way. But by avoiding this dead pull, and, on the other hand, varying it so as sometimes to give a little and then to return to the charge and restrain the horse, the mouth is prevented from getting dead, and the boy, light and weak as he is, keeps the control of his powerful horse. After a time, when the lad becomes quite at home with his easy-going and quiet horse, he may be changed to another rather more flighty, and he may also have charge of him entirely if he has mastered all the secrets of the stable with the quieter and older one of which he had previous charge. In process of time, the lad will learn to be able to do exactly what he is ordered, and will ride his horse so as to make him extend himself over the precise distance, and at the exact rate which he is previously told. But all this is a work of time, and is generally an imitative process, being handed on from generation to generation, or rather from stage to stage, by the elder boy to the next, and so on. It is some time generally before a lad is able to lead a gallop so as to regulate the pace, and until then he is only required to keep his distance from the horse before him, and to avoid being unhorsed in the gambols or vicious attempts of the animal he is mounted on. But in time he learns to lead or to ride trials; and as some lads are quicker than others in acquiring this knowledge, so the head groom or trainer uses them accordingly, and places them upon such animals as are within their powers. But besides their out-of-door occupations, the lads have also to perform all the stable duties of hand-rubbing, dressing, &c., which are better here minutely described as part of the duties of the stable-boy.

DRESSING THE RACEHORSE does not differ in principle from the ordinary dressing of any other kind of well-bred horse, but it is carried out to a greater extent, and is continued for a longer time than any other, except the highest class of hunters. The first rough dressing in the morning before exercise is scarcely worth noticing, as it only consists in getting rid of any wet or dirt incidental to the lying down in the litter, which is often unavoidably stained in the night, and in smoothing over the whole coat with a whisp of hay, and the

rubbers afterwards. But after the exercise the process is a long and tedious one, and is intended to answer a double purpose viz., first of all to get rid of any dirt either accidentally occurring from external sources, or as a result of the sweats drying in the coat, and, if remaining, clogging up the pores of the skin; secondly, by means of friction, to increase the activity of the circulation in the skin, and thus allowing it to go on as rapidly as is required during the violent exercise to which this kind of horse is submitted. On coming in from exercise, then, the boy rides his horse into his stable, and turns his head round, away from his manger; he next, after dismounting, takes off the boots, hood, bridle, &c.—indeed all except the quarter-piece and the saddle, which should not be removed for some little time, but which should just be lifted for a moment and then replaced. The breast-cloth and front of the quarter-piece are turned back over the saddle, and the whole fore-quarter of the horse exposed and well-dressed over, beginning with the head, which should be first brushed over, then well whisped with a handful of hay, matted, as is always done in the stable, into "a whisp," as it is called, and finally rubbed smooth with a rubber; but this not till the neck and fore-quarter have been successively brushed over and whisped; after which the mane and forelock are combed out, and brushed down with a damp brush. When this is done the horse is re-turned to his manger, and his head-collar put on and racked up, and then with his muzzle on, he is made safe in case of his exercising his teeth, which most of these thin-skinned animals will do, even without vice, when their flanks are brushed or even whisped. The next process is to pick out the feet and wash them, as well as the legs, which the lad does, taking his bucket and brush, and well picking out, and then brushing the feet well, after which he washes the legs, keeping on the near side in all cases during the whole business; a flannel bandage is then put upon each of the four legs, and remains on till the horse is dressed, preventing them from becoming chilled by the wet, and also guarding them from blows in the kickings and struggles of the horse, which are generally pretty constant and strong in this part of the process. Having done this, the saddle is taken off, and the back and sides, as well as the quarters, are brushed over first, then well whisped, and finally smoothed down with a rubber. The brush should never be used during the shedding of the coat, and the currycomb is seldom or never required with thorough-bred horses, as a thick coarse coat, such as would demand this instrument, is almost unknown in the racing stable; and, if present, is always removed by the clipping-scissors, or the singeing-lamp. The quarter-piece and breast-cloth are now replaced, always taking care to throw them first well forward over the withers, and then to draw the former smoothly over the loins, so as to keep the coat down, which, without this precaution, would stand up in all directions, when next the cloth was taken off. The roller is now put on, doubling the long part over the pad till it is on the back, and then throwing the former part smoothly over so as to avoid a crease. It is then buckled tightly up, and the hood is spread over the loins to prevent a chill after the exercise; but it is not left on when the stables are locked up. The tail is now combed out, and the bandages taken off, one by one, keeping them on till the lad is ready to rub each leg in its turn. In this part of the dressing the boy goes down on its knees under the horse, who always permits this to be done without resistance, and, taking a linen rubber, he proceeds to dry the leg carefully, and then to rub it well with the two hands, running one down on each side, and working the fingers into the spaces between the ligament and tendon. When this leg is dry, another is bared of its bandage, and rubbed in the same way as before, until all four are done, when the dressing is over, and the bed is shaken and smoothed with the pike; after which the feed is given, and the stable is locked for the present. Some horses make great resistance to the dressing, and are dangerous without great quickness and caution on the part of the boy; but if the lad is good-tempered, yet firm, and neither shows fear nor annoyance, but patiently waits till the horse lets him do what is necessary, in almost all cases he gets his way, and is allowed to do what he requires. When once, however, a horse is made vicious by fear or mischief on the part of the boy, he is a very troublesome customer, and few lads can manage such an animal, if of the worst kind. The head groom must stand by, either to dress him himself, or keep him in fear during the process; and even a man will sometimes fail in doing everything which he wishes with the hind-quarters of some horses that have been spoiled by ill-management. Generally, however, these animals will suffer their little attendant to do more than any one else with them; and it is a good

test of the merits of the lad if it is found that he can manage, without difficulty, a horse of thin-skin and general irritability. When he can do this, and also ride him to orders, he is a valuable addition to any training-stable, especially if he keeps his mouth shut, and does not divulge the secrets which he soon guesses at.

Sect. 2.—The Head Groom.

The stable or exercise-boy generally aspires to be either a head groom, and finally perhaps a trainer on his own account, or, on the other hand, a professed jockey. Such are the ambitions of these juveniles; and if they are clever and industrious, with good opportunities, they may become one or the other, or often all three in succession. The lads who speedily become heavy and bony are thereby rendered unfit for anything but the situation of head groom; but as only one or two men are generally kept about any racing establishment, and as there are as many boys as horses, the surplus are obliged to seek for common situations as grooms when they can no longer ride a suitable weight, which should seldom be more than 6st. or 6st. 7lbs. If, however, the lad has the head suited for the place, and can acquire and retain the confidence of his master, he is perhaps made the head groom of the establishment, and has the superintendence of all the stables as well as the management of the gallops and sweats, in the absence of the trainer, or under his orders. He gives out the corn, and generally feeds every horse himself; seeing also that the hay is given, but generally weighing this out or guessing it for each lad, who takes it to his horse's rack. Besides these offices, his hands are generally full in a large racing establishment with preparing and giving mashes, balls, drenches, &c., or applying charges and dressings to legs, blistering, applying lotions, &c., all which are constantly being required. He has also to superintend the shoeing, if the trainer himself does not take this responsible office, and see to this important part himself. All these several duties must, in very large establishments, be divided between two or three hands; and in some a clerk also is constantly kept, who notes down every gallop, every sweat, every time a horse goes out of the stable or is shod, and, in addition, gives out the physic, and keeps an account of the exact strength. Without these precautions endless confusion would result where thirty or forty horses of different ages are being trained, because when it is found that a dose of three drachms of aloes will not suffice, more must be given next time, and sometimes it is increased to five or six drachms; but if this larger quantity were given by mistake to an animal of delicate constitution, the extra purging might be fatal, or at all events might throw him out of health for a long time. The head groom should also be a good, strong, resolute horseman, and of a tolerably light weight, so as to be able to undertake to manage those horses which are getting above the powers of the lads. In small establishments the breaking is conducted by them also, but in large ones there is generally one man whose sole business is the breaking of the colts and fillies, of which he has always some three or four in hand, and which number will fully occupy one man's time, if they are to be thoroughly and effectually got through their pupilage.

Sect. 3.—Jockeys.

Various are the gradations in this class, some of whom are men of considerable wealth, whilst others are merely the stable lads promoted for the time being. One thousand pounds, and even double and treble that amount, are not uncommonly promised and given for a successful execution of orders over the Epsom or Doncaster courses; and yet the regular fee is 3*l.* for an unsuccessful, and 5*l.* for a successful ride. These prices, however, are understood to be given only when the jockey is on the spot and happens to be unemployed; for if regularly engaged there is generally a special arrangement made, varying according to the rank which each holds in his profession. At first sight it may appear that the above named sums are an ample remuneration for a few minutes' ride, and so they are when the rider is often engaged, and his habits are such as to lead him to husband his money. Too often, however, the reverse is the case and the lad who up to a recent time was limited to bread and cheese, with a hearty meal of beef and potatoes, is not contented without champagne and French dishes, and spends his thousands even more rapidly than he earns them. The instances in which money has been saved in this class are not very numerous, but some have occurred, and often it has enabled them to undertake training establishments requiring considerable capital. All things considered, and taking into account the temptations to which this class are subjected, it is not perhaps to be supposed that they are overpaid, especially as it is only in a few cases

that high rewards are given for successful performances. It must be remembered also that their office is a dangerous one, and that at all times life and limb are jeopardised in the pursuit. The instances of both suffering are numerous enough; and besides this the length of time during which they are employed is not generally very great. The nerve necessary for riding seldom lasts long, and fashion or the fickleness of the master leads to neglect sooner perhaps than it is deserved. Taking them as a class, jockeys are above the general run of men connected with the turf, being more honest than many of their masters, and seldom being known to take the bribe, which would always be ready for them if acceptable. The reason for this may be a low one, as that honesty is necessary for success, and that they dare not stoop to bribery; but nevertheless there can be no doubt that as a class they are above suspicion. Unfortunately of late years the orders to ride behind have become so common that they could scarcely be refused by the jockey, and he is now expected to ride to orders in most cases, though there are still some who would refuse such a mount. In important races, like the Two Thousand Guineas, the One Thousand Guineas, the Derby, and Oaks, &c., the jockey generally rides his horse several gallops before the race; but in the great majority of races he is never on his back until the bell for saddling has rung. It is therefore extraordinary that he should be able to do what he does, but receiving information from the trainer as to the peculiarities of his mount, and as to the best mode of displaying his powers, he is not quite in the dark as to his capabilities, and will generally ride him to perfection on the first occasion if he is an accomplished artist in his line. The previous handling of a young horse is however a great advantage, and few jockeys should be put up without it. Nothing indeed but the desire to keep up an uncertainty as to the intended rider ought ever to prevent it in such a case as any of the above-mentioned important races. The jockey, in all cases, when engaged is informed of the weight he has to ride, and is expected to come to scale exactly to that weight, finding his own saddle, but the bridle being generally that which the horse is accustomed to. One pound is the usual allowance for single-rein bridles, and two for double reins or curb bridles; and when a snaffle is used with double-reins and a martingale, but without a curb-bit, the calculation is generally a pound and a half. If the jockey is over-weight, it must be declared at the time of going to scale, according to the rules of the Jockey Club. The modes of sweating and living are much the same as for pedestrian purposes, in the chapter describing the training for which, full directions are given for sweating, dieting, &c., applicable also to these cases.

Giving a Leg.—Jockeys in all cases, and generally all riders of thorough-bred horses in training, mount their horses by receiving the assistance of a second party, who lifts the jockey or lad into the saddle by means of the bent leg. The mounting party stands facing the saddle, and takes hold of the pommel with the left hand, he then bends his left knee, and, giving a spring, is aided by the assistant's hand lifting him into the saddle. The object is, first, to avoid deranging the saddle, which being small and light will not bear much side-pull; and secondly, to avoid being kicked by the horse in the ordinary kind of mounting by the stirrup, which in large horses and with small riders is attended with considerable difficulty, and gives occasion to the horse to use his hind-legs with great risk of injury to the rider.

CHAPTER XII.

EXPENSES.

Sect. 1.—Expenses of Breeding.

The average expenses of breeding first-class thorough-bred stock may be taken as follows:—

One-fifth value of brood-mare . .	£80
Expense of covering, travelling, and keep for six weeks	30
Brought forward	£60
Keep of mare for one year . . .	25
Keep of colt up to commencement of training, about a year and a half	45
	£130

Thus, without any allowance for risk, or

for barren mares, dead foals, &c., every colt may be considered to cost 125*l.* before training as a two-year-old, and at least 25*l.* more before he can be put into training as a three-year-old. But, making every allowance, and taking into consideration the above risks, perhaps it may be calculated that colts and fillies together, of any but the very highest blood, may be bred at about 150*l.* a-piece.

Sect. 2.—Expenses of Training.

The usual charge for public training is two guineas a-week, to which are added heavy expenses for travelling, and boxes, and in running; but as few horses are in training during the whole year, they may be calculated at about 75*l.* per annum per horse. Private training varies so much that no calculation can possibly be made of its expenses. In addition to the above charge for public training, there are numerous extras in most establishments, besides travelling expenses. The entrance monies are well known, and vary from two guineas up to 800*l.* All other expenses fluctuate so much between those attending upon a Derby horse and the trifling outlay upon a small country meeting, that no useful calculation can possibly be made.

CHAPTER XIII.

THE LAWS OF RACING, BETTING, &c.

Rules Concerning Horse-Racing in General.

1. Race-horses take their ages from the 1st January.

2. *Catch Weights.*—Catch Weights are, each party to appoint a person to ride without weighing.

3. *Feather.*—A feather weight shall be considered 5st. 7lb., and the usual declaration must be made when the jockey carries more than that weight.

4. *Maiden Horses.*—A maiden horse or mare is one that has never won a plate or sweepstakes.

5. *Plates.*—A plate is any prize given to be run for, without any stake being made by the owners of the horses to go to the winner.

6. For a plate, no person can run, either in his own name or in that of any other person, two horses of which he is wholly or in part owner, unless permitted to do so by a special clause in the conditions.

7. *Sweepstakes.*—Where a stake is deposited by the owners of the horses, which is to go to the winner, such race is a sweepstakes; and if an additional sum of money, cup, piece of plate, or other reward be offered to the winner, the race is still a sweepstakes, though such addition should be denominated a plate by the donor.

Three subscribers make a sweepstakes; and if a stake has the required number of subscribers at the expiration of the time of closing, and the number is afterwards reduced by death (or, in the case of a produce stake, by failure of produce), the race is not void as long as there are two horses left, the property of different persons; and if the number is reduced to two it is still a sweepstakes.

8. *Post Match or Sweepstakes.*—For a post match or sweepstakes each subscriber names two or more horses of the proper age, but can only run one, unless a greater number is allowed by the conditions of the race.

9. *Omissions, how supplied—of Weight.*—When any match or sweepstakes shall be made, and no weight mentioned, the horses shall carry 8st. 7lb. each, and if any weight is given the highest weight shall be 8st. 7lb.

10. *Of course.*—When any match or sweepstakes shall be made, and no course mentioned, the course shall be that which is usually run by horses of the same age as those engaged, viz.:—

	If at Newmarket
If yearlings, two furlongs	Y.C.
If two years old, six furlongs	T.Y.C.
If three years old, one mile	R.M.
If four years old, two miles	D.I.
If five years old or upwards, four miles	B.C.

And if the horses should be of different ages, the course shall be fixed by the age of the youngest.

11. *Of Day.*—If no day is mentioned for a race it shall be run on the last day of the meeting, unless otherwise agreed by all the subscribers.

As to Nominations.

12. *Description necessary.*—In all nominations for sweepstakes and plates, the horse or mare entered must be clearly identified.

The name of the sire and dam must be given, and if the dam has no name in the Racing Calendar or Stud Book, such further pedigree and description must be added as will distinguish the horse intended to be named from any other of a similar pedigree. If the dam was covered by more than one stallion, the names of all of them must be mentioned.

18. *When the Name is sufficient.*—If a horse has once been entered with his name and pedigree in a race published in the Racing Calendar, it will be sufficient afterwards to mention him by his name only, even though he has never started; and in entering a horse for the first time by his name in several races closing at the same time, it will be sufficient to give his pedigree in one of these nominations, and his name only in the others.

14. *When the Age must be mentioned.*—In naming for a race in which horses of different ages are admitted, the age of the horse named must be mentioned.

No yearling can run for public stakes, and no horse which has run for a yearling stake is qualified to run afterwards at any place where these rules are in force.

15. *Nomination of Foreign Horse.*—No horse foaled out of the United Kingdom shall run for any race until his owner has produced a certificate of some racing club of the country where the horse was foaled, or from the mayor or other public officer of the district, stating the age, pedigree, and colour of the horse, and the marks by which it is distinguished.

16. *Incorrect or Insufficient Description a Disqualification.*—If any horse, &c., shall be named or entered without being identified as before directed, he shall not be allowed to start in the race, but his owner shall be liable to pay the forfeit, or if a play or pay race, the whole stake.

17. *Fraudulent Entry a Perpetual Disqualification.*—If a horse shall fraudulently run, or be entered to run, for any race by a false description, such horse is thenceforth disqualified for running in any race; and the owner shall be compelled to return any sum of money won in plates, matches, or sweepstakes (whether handicap or not), which the said horse may have won.

18. *Qualification Dates from Time of Closing.*—In naming or entering for any race where there shall be any particular conditions required as a qualification to start, it shall be sufficient if the horse were qualified at the expiration of the time allowed for naming or entering, and he shall not be disqualified by anything which may happen after the expiration of that time, unless so specified in the article; or unless he becomes disqualified under the rules relating to defaulters.

If a brood mare engaged in a produce stake drops her foal before the 1st of January, the nomination is void, and if she has a dead foal or is barren the nomination is void.

19. *Nominations not to be Changed after Closing.*—No person who has once subscribed to a stake shall be allowed to withdraw his name, and no nomination shall be altered in any respect after the time of closing, without the consent of all the parties in the race.

20. *Exception to preceding Rule.*—When a person takes a nomination for a stake in which the forfeit is to be declared by a particular time, and does not declare forfeit by the time fixed in the article, he shall thenceforth be considered to have taken the engagement on himself, and his name shall be substituted for that of the original subscriber.

21. *Use of Fictitious Names.*—When any person enters a horse, or subscribes to a stake under a fictitious name, or in the name of a person not fully identified at the time, he shall be considered in all respects as the owner of the horse, and as the subscriber to the stake; and in the event of the forfeit not being paid, his real name shall be published in the Forfeit List.

Every person who wishes not to engage his horses in his own name, must adopt some one name, which must be registered at Messrs. Weatherby's Office, and he cannot enter in any other until the change is duly notified to them; and the change shall be noticed in the first Sheet Calendar published after the receipt of such notification by Messrs. Weatherby. No person who enters horses in an assumed name shall be allowed to adopt and register as such the same name as that of any gentleman who runs his horses in his own name.

A fee of one sovereign is to be paid on each registration, which shall be carried to the credit of the Bentinck Benevolent Fund.

22. *Nominations not required to be made on Sunday.*—When the day fixed for the closing or naming for any stake, or for declaring forfeit or produce, shall fall on Sunday, subscriptions, nominations, or declarations or such stake may be received on the following day, provided that there is an interval of one clear day between the day of closing, naming, or declaring, and the day of running.

In case the day fixed for naming for any

stake, for which nominations are received by Messrs. Weatherby, shall fall during a Newmarket race week, nominations may be made to them there, whether so expressed in the advertisement of the stakes or not.

23. *Void by Death.*—All nominations are void by the death of the subscriber.

24. *Allowances to Produce of Untried Horses or Mares.*—In every sweepstakes in which there shall be an allowance of weight to the produce of untried horses or mares, it shall extend to horses or mares whose produce never won, but such allowance shall be claimed by the subscriber before the expiration of the time of naming; and if not so claimed, no allowance shall be made.

Respecting Stakes and Forfeits.

25. *Stakes to be made before Starting.*—All stakes shall be made before starting, in cash, bank bills, or bankers' notes, payable on demand, and be paid into the hands of the person appointed by the Stewards to receive the same; and in default thereof by any person, he shall pay the whole stake as a loser, whether his horse came in first or not, unless such person shall have previously obtained the consent of the party or parties with whom he is engaged, to his not staking.

And Forfeits in certain cases.—When any person has more than one nomination in a stake, he shall not be allowed to start any horse for it unless the forfeits be paid for every horse which does not start, belonging to him, or standing in his name, or in the same name as the horse which runs, as well as the stakes for those which do.

26. *Arrears of Owner or Namer to be Paid before Starting.*—No person shall start a horse for any race, either in his own name or in that of any other person, unless both the owner and namer of such horse shall have paid all former stakes and forfeits. And this rule shall extend to forfeits due elsewhere than at the place of running, provided a notice of such forfeits being due shall have been published in the Forfeit List, or have been delivered to the Stakeholder or Clerk of the Course by ten o'clock in the evening preceding the day of running.

27. *Arrears due for a Horse to be Paid before he can Start.*—No horse shall start for any race unless all former stakes and forfeits due for that horse shall be paid before starting, provided notice has been given as above.

28. *These Rules extend to Ireland.*—These rules relative to arrears of stakes and forfeits, extend to forfeits due at the Curragh and other established meetings in Ireland.

The Forfeit List.

29. *To be published in Racing Calendar.*—A list of unpaid forfeits, with the name of the subscriber to the stake, and the name or description of the horse, with the name or sufficient description of the stake, and the amount of the forfeit, shall be advertised in the Sheet Racing Calendar after the Newmarket July and Houghton meetings every year.

30. *By whom Lists of Forfeits are to be sent for publication.*—The person appointed to receive stakes is to send to Messrs. Weatherby a list of unpaid forfeits, as soon after the race as conveniently may be, in order that the same may be placed upon the Forfeit List; and if he shall omit to make such last-mentioned return within a reasonable time, it may be made by the respective winners of the races for which the forfeits are due. These returns in all cases to be made in writing, and signed by the parties making them.

31. *Persons appearing in Forfeit List not entitled to enter.*—No person whose name shall appear in the published Forfeit List shall be entitled to enter or run a horse for any plate, sweepstakes, or subscription, either in his own name, or in the name of any other person, until he shall have paid up all the forfeits, in respect of which his name appears in the list.

32. *Horses appearing in Forfeit List not qualified to be entered.*—No horse which appears in the published Forfeit List shall be qualified to be entered or to run for any race whatever until the forfeits mentioned in the said list as due for such horse shall have been paid.

33. *Suspected Nominations may be struck out.*—In order to prevent persons who are defaulters from evading these laws, and continuing to engage horses by the use of fictitious names, the Stewards shall have the power of calling upon a nominator to produce satisfactory testimony that the horse named is not the property, either wholly or in part, of any person whose name appears in the advertised list of defaulters, and if the nominator shall fail to do so, the Stewards may cause the nomination to be erased.

34. *Liability for Engagements of Horses sold.*—When a horse is sold with his engagements, or any part of them, the seller has not the power of striking the horse out of the engagements with which he is sold; but as the original subscriber remains liable to the respective winners for the amount of the forfeits in each of these engagements,

he may, if compelled to pay them by the purchaser's default, place the forfeit on the Forfeit List in the usual manner, as due from the purchaser to himself; and until this forfeit is repaid, both the purchaser and the horse remain under the same disabilities as if the purchaser had been the original subscriber.

In all cases of sale by private treaty, the written acknowledgment of both parties that the horse was sold with the engagements is necessary to entitle either buyer or seller to the benefit of this rule; but when the horse is sold by public auction, the advertised conditions of the sale are sufficient evidence, and if he has been claimed as the winner of a race of which it was a condition that the winner was to be sold with his engagements, this also is sufficient.

35. When a person has a horse engaged in the name of another person, and is entitled by purchase or otherwise to start the horse for such engagement, but is prevented by any of the preceding laws from starting his horse without previously paying up forfeits to which he is not otherwise liable, he may, if he pay these forfeits, start his horses and have the forfeits with the names of the horses for which they are due, placed on the Forfeit List in the usual manner as due to himself.

Weighing.

36. The name of every horse intended to start must be notified to the Clerk of the Scales, and his number be exhibited one quarter of an hour before the race; and if any alteration be made in the numbers after they have been exhibited, the Stewards may call upon the owner or trainer for an explanation. If this is not satisfactory, the owner, or trainer, or jockey, may be fined, at the discretion of the Stewards, in any sum not exceeding 25*l.*, and the horse shall not be allowed to start, nor the jockey to ride again, until the fine is paid.

37. *To weigh before and after the Race*—Jockeys are required to weigh at the usual place of weighing, before the race, unless excused by the Stewards for some special reason, when the fact must be notified to the Clerk of the Scales; and every rider is, immediately after the race, to ride his horse to the usual place of weighing, then and there to alight, and not before, and to weigh to the satisfaction of the person appointed for that purpose; and if the jockey dismounts before, or is short of weight, his horse is disqualified, unless he be disabled by an accident to himself or horse which should render him incapable of riding back, when he may walk or be carried to the scale.

It is optional for the jockey to weigh with his bridle, and the Clerk of the Scales will allow 1lb. for a curb or double bridle, but no weight is allowed for a snaffle bridle unless it is put into the scale before the horse is led away.

38. *Over-weight.*—Each Jockey shall be allowed 2lb. above the weight specified for his horse to carry, and no more, unless a declaration has been made to the Clerk of the Scales of the extra weight the jockey is about to carry, one half-hour before the time fixed for the said race, and the extra weight shall be appended to the horse's number when it is put up. In default of such declaration the horse carrying more than 2lb. over his specified weight shall be placed as the last horse in the race, the jockey shall be fined 5*l.* for his neglect, and shall not be allowed to ride until the said fine be paid; and the weight each horse actually carried, if more than 2lb. above his weight, shall be published in the first list printed after the race, and also in the Racing Calendar.

39. *Raising Weights and Handicaps.*—In all handicaps with twenty subscribers, when the highest weight accepting is under 8st. 12lb., it is to be raised to that weight, and the others in proportion; but in all minor handicaps, and in two years old handicaps, when the highest weight accepting is under 8st. 7lb., it is to be raised to 8st. 7lb., and the others in proportion.

40. *No horse to carry less than 5st. 7lb.*—No horse shall carry less than 5st. 7lb. for any race, and horses which have run in violation of this rule shall not be allowed to run at any place where these rules are in force.

Starting.

41. *Horses going to the Post to be considered Starters.*—When the riders of the horses brought out to run for any race are called upon by the person appointed to start them to take their places for that purpose, every horse which comes up to the post shall be liable to his whole stake.

42. *Power of the Starter.*—The Starter has authority to order the jockeys to draw up in a line as far beyond the starting-post as he may think necessary; and any jockey disobeying the orders of the Starter, or taking any unfair advantage, may, on the complaint of the Starter, be fined for the first offence 5*l.*, for the second 10*l.*, for the third 25*l.*, and for the fourth may be suspended from riding, at the discretion of the Stewards.

The Starter is prohibited from making a running start—the horses must walk up, and be started from a walk, and if the Starter from negligence or inattention allows a start to take place on the wrong side of the Starting-post, he shall be fined a sum of money not exceeding 50*l.*, and the start shall be declared null and void.

43. *Foul Riding.*—If in running for any race one horse shall jostle or cross another, such horse is disqualified for winning the race, whether such jostle or cross happened by the swerving of the horse, or by the foul and careless riding of the jockey or otherwise; and when one horse crosses the track of another, it is deemed a disqualification, unless he be two clear lengths, or more, before the horse whose track he crosses. And if such cross or jostle shall be proved to have happened through the foul riding of the jockey, he shall be subject to such punishment as the Stewards may think fit to inflict.

44. Horses running on the wrong side of a post and not turning back are disqualified.

Second Horse.

45. *Money for Second Horse.*—When it is a condition of a stake or plate that the owner of the second horse shall receive a certain sum of money *out of the stakes*, or *out of the plate*, and the race is walked over for, or no second horse is placed, the winning horse is entitled to the whole prize. If the money advertised to be given to the second horse is a separate donation from the Race-fund or other source, and the race is walked over for, or no second horse is placed, the money is not given at all.

When the entrance-money for a plate is advertised to be given to the owner of the second horse, and the plate is walked over for, or no second horse is placed, the entrance-money is to be returned.

Dead Heats.

46. *When to be run over again.*—If for any plate or sweepstakes, not to be run in heats, the first two or more horses shall come in so near together that the Judge shall not be able to decide which won, those horses shall run for such prize over again, after the last race on the same day; the other horses which started are deemed losers, and are entitled to their respective places, as if the race had been finally determined the first time.

47. *Effect of Dividing after a Dead Heat.*—When horses run a dead heat for a sweepstakes or plate, and the parties agree to divide the stakes, such horses shall be liable to carry extra weight as winners of that race, and if there is any money for the second horse, they divide that also.

48. *Dead Heat for second place.*—When horses run a dead heat for the second place they divide any money that may be payable to the second horse; and if there is any money for the third, they divide that also; and if any of these horses run for a race in which there is a penalty for having received a certain amount of money as second horse, they shall be considered as having received only the amount of their respective shares.

Heats.

49. When a race is run in heats, a horse, to win the prize, must be the actual winner of two heats, unless no horse appear against him, when one walk over is sufficient.

50. In running of heats, if it cannot be decided which horse is first, the heat goes for nothing, and they may all start again, except it be between two horses that had each won a heat.

51. When two horses have each won a heat, they only must start for a third, and the preference between them will be determined by it.

52. When a plate is won by two heats, the preference of the horses is determined by the places they get in the second heat.

53. Horses drawn before the plate is won are distanced.

54. No distance in a third heat.

55. No person shall start more than one horse of which he is the owner, either wholly or in part, and either in his own name, or that of any other person, for any race for which heats are run.

Selling Stakes.

56. *How the Winner is to be Claimed.*—When it is made a condition of any plate or sweepstakes that the winner shall be sold for any given sum, the owner of the second horse being first entitled, &c., no other person than one who ran a horse in the race shall be entitled to claim. The claim must be made to the Judge, the Clerk of the Scales, the Clerk of the Course, or one of the Stewards present, within a quarter of an hour after the race. The horse claimed shall not be delivered till he is paid for; and he must be paid for by ten o'clock at night on the day of the race, otherwise the party claiming shall not be entitled to demand the horse at any future period; but nevertheless, the owner of the winning horse may insist upon the claimant taking and paying for the horse claimed.

57. *Claim of Beaten Horses.*—Any horse running for a selling stake or plate is liable to be claimed by the owner of any other horse in the race, for the price for which he is entered to be sold, and the amount of the stake—the owner of the second horse to be first entitled to claim, and the winner to have the last claim.

Horses running for a race which is excepted by special conditions from the operation of this rule, are not qualified to be entered for a handicap at any meeting professed to be subject to the established rules of racing.

58. No person can claim more than one horse in the same race.

59. If two or more persons, equally entitled, wish to claim, they shall draw lots for the priority.

Extra Weights and Allowances.

60. When it is a condition of any race, that horses shall carry extra for winning a certain number of prizes during the year, or be allowed weight for having been beaten a certain number of times during the year, such winnings and losings shall date from the first of January preceding, and shall extend from the time of starting, unless otherwise specified.

61. *Not Accumulative.*—Extra weights and allowances are not accumulative, unless so specified in the conditions.

62. Horses do not carry extra weight for winning a match, and are not entitled to allowance for having been beaten in a match.

Winners of hurdle races are not considered winners in flat racing.

63. A horse walking over, or receiving forfeit, except for a match, is deemed a winner.

64. *Value of Prizes—how calculated.*—In estimating the value of any prize, no deduction shall be made, except of the winner's own stake, and of any sum or sums required by the conditions to be paid out of the stakes to the owners of any other horse or horses in the race. The entrance for a plate not to be deducted. And every prize, not in specie, shall be estimated at its advertised value in sovereigns, and if such value is not designated, it shall be taken at the cost price.

The winner of the Queen's Vase at Ascot is exempt from any penalty for such winning, unless this prize is specially mentioned in the conditions of the race.

Objections to Qualifications.

65. *Examination of Mouth.*—When the age or qualification of a horse is objected to, either before or after running for any race, the Stewards, or those whom they may appoint, shall have power to order an examination of the horse's mouth by competent persons, and to call for all such evidence as they may require, and their decision shall be final, unless they shall sanction the removal of the question in dispute into a Court of Law.

Any person requiring a horse's mouth to be examined, must pay the expenses of such examination unless the horse is proved to be of the wrong age, in which case such expense shall be paid by the owner of the said horse.

66. *When complaints must be made.*—All complaints of foul riding, or of horses not running the proper Course, or of any other irregularities occurring in the race, must be made either by the owner, jockey or groom of the horse, to one of the Stewards, to the Judge of the race, to the Clerk of the Course, or the Clerk of the Scales, within a quarter of an hour after the race.

As it is expedient that there should be a statute of limitations with respect to the time of lodging objections against winning horses, no complaints can be entertained after the conclusion of the Race Meeting, save and except charges of fraudulent entry or of running horses under a false description, which may be investigated at any period within one year from the date of the offence.

67. *Objection to Qualification—when to be made.*—When the qualification of any horse is objected to by ten o'clock in the morning of the day of starting, the owner must produce a certificate, or other proper document, to the Steward or Clerk of the Course, or to the keeper of the Match-book, if the case happen at Newmarket, before the race is run, to prove the qualification of the horse; and if he shall start his horse without so doing, the prize shall be withheld for a period to be fixed upon by the Stewards, at the expiration of which time, if the qualification be not proved to the satisfaction of the Stewards, he shall not be entitled to the prize, though his horse shall have come in first, but it shall be given to the owner of the second horse. When the qualification of a horse is objected to after that time, the person making the objection must prove the disqualification.

To Postpone Races.—The Stewards have the power, in cases of urgent necessity, of putting off the races from day to day, until a Sunday intervenes.

Not to Decide Betting Cases.—The Jockey Club and the Stewards thereof take no cognizance of any disputes or claims with respect to bets.

Act at Epsom and Ascot.—The Stewards of the Jockey Club are, *ex officio*, Stewards of Epsom and Ascot.

The Cup and Whip.

The Cup.—The Cup may be challenged for on the Monday or Tuesday in the First Spring Meeting in each year; to be run for over the B.C., on Tuesday, in the First October Meeting following, by horses, &c., the property of Members of the Jockey Club; four year olds carrying 8st. 7lb., five year olds, 9st. 11lb., six year olds and aged, 9st. 4lb. Each person, at the time of challenging, is to subscribe his name to a paper to be hung up in the Coffee-room at Newmarket, and deliver to the Keeper of the Match-book the name or description of the horse, &c., sealed up, which shall be kept till six o'clock on the Saturday evening of that week; and if not accepted, or only one challenger, to be returned unopened; but if accepted, or if more than one challenger, to be then opened and declared a match, or sweepstakes of 200 sovs. each, play or pay. If the challenge be not accepted, the Cup to be delivered to the Keeper of the Match-book in the meeting ensuing the challenge, for the person who may become entitled to the same.

The Whip.—The Whip may be challenged for on the Monday or Tuesday in the First Spring, or on Monday or Tuesday in the Second October Meeting in each year, and the acceptance must be signified, or the Whip resigned, before the end of the same meeting. If challenged for and accepted in the Spring, to be run for on the Tuesday in the Second October Meeting following; and if in the October, on the Thursday in the first Spring Meeting following B.C.; weight 10st., and to stake 200 sovs. each, play or pay.

At a General Meeting of the Jockey Club held at Newmarket in the Houghton Meeting, 1859, it was resolved—

That in future one of the Newmarket Queen's Plates shall be run the Beacon Course, and the other two the Round Course.

That in future there shall always be an interval of one month between the Two Thousand Guineas Stakes and the Derby, as was the case before the Newmarket Second Spring was abolished.

RULES ON BETTING.

1. In all bets there must be a possibility to win when the bet is made; "you cannot win when you cannot lose."

2. The interests of the bets are inseparable with the interest of the stakes, except when the winning horse is disqualified owing to a default in making stakes.

3. All double bets must be considered "play or pay."

4. Confirmed bets cannot be "off" except by mutual consent or by incidents hereafter mentioned, viz.—Firstly: Either of the Betters may demand stakes to be made fourteen days before the race is run, upon proving to the Committee of the Rooms that he has just cause for so doing. *If ordered*, the bets must be covered on the comparing day, or sufficient security offered, and a person refusing to cover shall be expelled the Subscription Rooms at Tattersall's and Newmarket. Secondly: If a Better be absent on the day of running, and there is a just cause to presume that he intends to evade his engagements, a public declaration of the bet must be made in the Ring, a copy of which is to be posted up at the usual place one hour before the race is appointed to be run, and in the event of no person of known respectability becoming responsible for the same, a written notice must be given to the Clerk of the Course, or to the Clerk of the Stakes, before the race is run, declaring the bet void.

5. All bets on matches and private sweepstakes depending between any two horses shall be void if those horses become the property of the same person, or of his avowed confederate, subsequently to the bets being made.

6. All bets between particular horses shall be void if neither of them win, unless agreed by the parties to the contrary.

7. If any bet shall be made from signal or indication after the race has been determined, such bet shall be considered fraudulent and void.

8. The person who lays the odds has a right to choose a horse or the field; when a person has chosen a horse, the field is what starts against him.

9. If odds are laid without mentioning the horse before the race is over, the bet must be determined by the state of the odds at the time of making it.

10. If a match or sweepstakes be made for any particular day in any race week, and the parties agree to change the day to any other in the same week, all bets must stand; but if the parties agree to run the race in a

different week, or to make the slightest difference in the terms of the engagement, all bets made before the alteration are void.

11. Bets made on horses winning any number of races within the year, shall be understood as meaning between the 1st January and 31st December.

12. If a bet is made between two horses in a match or sweepstakes with a forfeit affixed, say 100*l.*, h. ft., and both horses start, either party may declare forfeit, and the person making such a declaration would pay 50*l.* if the other horse won, but would receive nothing in the event of his horse winning the race.

13. Bets are determined though the horse does not start, when the words "absolutely run or pay," or "play or pay," are made use of in betting.

14. Money given to have a bet laid shall not be returned, though the race be not run.

15. When the riders of any horse brought out to run for any race are called upon by the starter to take their places, all bets respecting such horses shall be "play or pay."

16. When horses run a dead heat for a plate or sweepstakes, and the owners agree to divide, all bets between such horses, or between either of them and the field, must be settled by the money betted being put together and divided between the parties in the *same proportion* as the stakes. If a bet be made on one of the horses that ran the dead heat against a beaten horse, he who backed the horse that ran the dead heat wins half his bet if his horse received half the prize; if the dead heat be the first event of a double bet, the bet is void unless one horse received above a moiety, which would constitute him a winner in a double event.

17. The following races shall be considered "play or pay:"—The Derby and Oaks at Epsom; the St. Leger, at Doncaster; the Two Thousand Guineas, the One Thousand Guineas, the Cesarewitch, and Cambridgeshire, at Newmarket; the Ascot, Goodwood, and Doncaster Cups, and all Handicaps above 200*l.* value, with two forfeits, the minor of which shall not be less than 5*l.* And the committees of Tattersall's and of the betting-room at Newmarket will take no cognizance of any disputes respecting "play or pay" bets on any other races, or of any bets made upon handicap races before the weights for such races are published.

18. If a declared defaulter does not satisfy the claims of his creditors within twelve months, he shall not be entitled to receive any debts which may be due to him for the race for which he was in default; but if his debts are paid within the prescribed time, viz., "one year," the Committee will support his just claims to receive payment from his debtors.

19. The Stewards of races have no authority *ex officio* to take cognizance of any disputes or claims with respect to bets.

RULES AND REGULATIONS

TO BE OBSERVED BY ALL SUBSCRIBERS TO TATTERSALL'S SUBSCRIPTION ROOM.

1. Any person desirous of becoming a Member of this Room will be required to send to the Keeper of the Room an application in writing, accompanied by a recommendation (to be also in writing) signed by any two or more Members of the Room, stating their names and addresses. This application, which must be put up in the Room at least one week previous to his election, will be forthwith referred to the Members of the Committee of Subscribers, for their consideration and decision.

2. Every Member, upon admittance to the Room, must enter his name and address in a Book provided for that purpose, in which these, together with any other rules and regulations from time to time adopted to be observed by the Members, will also be entered; and such signature in the Book so containing the said rules and regulations will make it binding on the parties signing to abide by all such rules and regulations, as well as by all consequences resulting from breach or non-performance thereof; and such signature shall moreover be taken and deemed to absolve every person concerned in carrying out and enforcing such rules and regulations against such Subscriber from all personal responsibility or legal liabilities on that account.

3. No person who shall have made default in payment of stakes, forfeits, or bets, or who shall have been party, at any time, anywhere, to any fraud or malpractice connected with horse-racing, shall be admitted a Member of this Room. And if any Member should be hereafter discovered to have been, or should at any time become a defaulter, or be guily of any fraud or malpractice as aforesaid, and upon complaint to the Committee, should be adjudged by them to be so, his membership shall thereupon at once cease and determine, and he shall thenceforward be excluded from the Room.

4. Any Member of this Room having a disputed bet with another Member, shall be

bound, if required by him, to refer such dispute to two referees (being Members of this Room), one to be chosen by each party; such referees to appoint an umpire (being also a Member of this Room) before they proceed to hear the case; or in the event of the referees not agreeing in the choice of an umpire, such umpire to be appointed by the Committee, and the decision of such referees or umpire to be final. Any Member refusing to refer any bet so disputed, or to comply with the decision consequent upon such reference within one calendar month next ensuing after notice of such decision from the referees or umpire, either personally or by letter, to be addressed by post to the residence of such Member as entered in the Subscription Book, shall, upon complaint to the Committee, be deemed to be and be treated by them as a defaulter under the provisions of the third rule.

5. Any Member smoking in the Room, or creating any noise, uproar, or disturbance, will thereby forfeit his rights of membership, and render himself liable to immediate expulsion.

6. The Annual Subscription to the Room will be two Guineas, commencing on the 1st of January. New Subscribers will be admissible on the Epsom Settling day, upon payment of One Guinea each.

7. The Room will be opened on every Monday and Thursday throughout the year, at One o'clock in the Afternoon, and on every day (excepting Sunday) in the weeks immediately preceding the Epsom and August Meetings.

8. The following Members will constitute the COMMITTEE, of whom any three may form a Quorum; and in the event of an equal number of the Committee being present and of an equal division taking place upon any question, the Chairman *pro tempore* shall be entitled to a casting vote in addition to his vote as a Member of the Committee. In case of any Member retiring, his successor will be nominated by the Committee.

MARQUIS OF QUEENSBERRY.
THE EARL OF STRATHMORE.
VISCOUNT EXMOUTH.
VICE-ADM. HON. H. ROUS.
C. C. GREVILLE, ESQ.
G. PAYNE, ESQ.
F. R. MAGENIS, ESQ.
O. HIGGINS, ESQ.
HY. LOWTHER, ESQ., M.P.
} *Committee.*

NO SMOKING ALLOWED IN THIS ROOM.

Hyde-park Corner, February 8, 1858.

PRINCIPLES OF BETTING.

BETTING is undoubtedly a species of gambling, and it is now carried to an excess in all classes of society. Some notice, however, should here be taken of its principles, for it is of no use to attempt to ignore its existence. There are two modes of laying out money upon races, one in which the individual backs his judgment, or the information which he has received, founded upon that of others. This is called "backing horses." The other requires no knowledge of horses whatever, and is founded upon calculations which would inevitably lead to a winning result in the long run, if bets won upon paper and bets paid were synonymous terms. But while defaulters are constantly making their disappearance, and while others are slow in their payments, though perhaps finally solvent, this system will often lead even the most scientific bettor into trouble.

BACKING HORSES in principle is simple enough, but in practice it requires the bettor to know the secrets of the stable, and here he is constantly led into error. Many are the good things into which unsuspecting *friends* are led, and, on a remonstrance, are told perhaps that "it is no use now-a-days to attempt to take in your enemy, and therefore your friends must suffer." Unless, therefore, a bettor is connected with an influential stable, or has some extraordinary means of gaining information, in the long-run he is sure to be a sufferer; hence few backers of horses, except on the above terms, long continue the speculation. A few hits may be made, and perhaps some thousands pocketed on a particular Derby or St. Leger; but they are soon returned to the place from whence they came, and generally with very liberal interest.

MAKING A BOOK.—"Betting round" and "laying the odds" are very nearly synonymous terms, though it does not always happen that the person laying the odds makes a book. Sometimes such a thing occurs as a party laying them against a horse which is not "meant," or which is dead amiss, or even literally dead, yet in the P.P. races he will receive his bet. The principle of making a book is to lay out a fixed sum against every horse in the race, or as many as possible; and should the bettor "get round," as it is termed—that is, lay against enough to more than balance the odds laid, he is sure of winning (on paper). In this mode of betting the great point is that an outsider shall win; the favourite of

the time of making the book, being the worst horse in the race, though from having only lately become a favourite, he may be one of the best. Thus, supposing the bettor to make what is called a hundred-pound book —that is, to lay 100*l.* against every horse, at the current odds, he will take care not to lay more odds against any horse than the figure which represents half the number engaged; or, supposing there are 20 horses, 10 to 1. The reason of this is, that there are seldom more than half the horses backed, and consequently the bettor will not be able to get round with the whole number; but assuming one-half as the probable proportion, he will be tolerably safe; and if he can get more he will be all the more lucky. The following table shows the current odds in the week preceding the Derby of 1855, which was a bad betting race, from various causes; the odd shillings are omittted:—

Derby Betting, May 17.		Made into a £1,000 Book.			
Wild Dayrell	5 to 1	£1000	to	£200	0
De Clare . .	6 „ 1	1000	„	166	10
Lord of the Isles	6 „ 1	1000	„	166	10
Rifleman . .	6 „ 1	1000	„	166	10
Flatterer . .	12 „ 1	1000	„	83	5
Kingstown .	14 „ 1	1000	„	71	10
Dirk Hatterick	25 „ 1	1000	„	40	0
Oulstone . .	25 „ 1	1000	„	40	0
St. Hubert .	30 „ 1	1000	„	33	5
Rylstone . .	30 „ 1	1000	„	33	5
Bonnie Morn	50 „ 1	1000	„	20	0
Græculus E.	50 „ 1	1000	„	20	0
Strood . .	100 „ 1	1000	„	10	0
Benhams .	100 „ 1	1000	„	10	0
Vexation Colt	100 „ 1	1000	„	10	0
Rotheram .	100 „ 1	1000	„	10	0
Noisy . . .	100 „ 1	1000	„	10	0

It will thus appear that at the date of the above table it was impossible for a person going fresh into the ring to make a safe book, because the total receipts of the heavier book at the current odds would only amount to 1090*l.* 15*s.*, from which would have to be deducted the stake of some one horse (which this year happened to be the most unprofitable), and also 1000*l.* The book-maker, therefore, would have lost 109*l.* 5*s.*; but, as he would most probably have laid against 20 other horses during the year, at the average of 50 to 1, or 1000*l.* to 20*l.*, he would have to receive 400*l.* less 109*l.* 5*s.*, which, with the chances of defaulters, &c., would be a poor remuneration for time and expenses. Still, even in such a year as 1855, *on paper* such a book is a certain win, and it is only by bad debts that a careful man can ever be made to lose at this game. The left-hand column shows that it does not answer to lay the varying odds to the same amount, since on this plan the layer *may* have to pay 100*l.*, and would only receive 16*l.* In the year 1855 he would have risked this sum and won 11*l.*, being the difference between 5*l.*, the sum to be paid for Wild Dayrell's winning, and 16*l.* the various stakes gathered from the 16 losers; besides, of course, other pounds received from other horses laid against during the year. If, therefore, the bettor's object is to lay these small sums, he must be careful still to make his book on the same principle as the 1000*l.* book here given; that is, he must always keep the long odds at the same amount and vary the short ones accordingly. Such is the principle on which book-making is conducted, and it requires no knowledge of horses, and only a certain quickness of calculation; but it is variously carried out in practice, some playing the safe game, and being contented with laying only 1000*l.* against each horse as he comes into the betting, whilst others make their book full and then commence a fresh one; and as they find they are certain of money in hand, they invest it by laying twice over against horses which they fancy have no chance. The principle, however, is always the same, never to lay out money except with a certainty of receiving more from the whole of the losers than is to be paid to the one winner.

Hedging.—But besides this plain principle of book-making there is another called "hedging," and which is the result of good information in connexion with a stable. Thus, the bettor having been told that A is a horse likely to improve, takes 1000*l.* to 20*l.* in the autumn, and perhaps does this with two other horses on information received from various sources. In process of time, and shortly before the race comes off one of them is gone out of the betting from accident, and must be written off as a loss of 20*l.* against A; B is at 5 to 1, whilst C is at 2 to 1. Now then he proceeds as follows: he lays 5 to 1 against B to 500*l.*, and 2 to 1 against C to the same amount, and he would then on the whole transaction stand as follows:—

A will be a certain loss of 20*l.*

If B wins he will receive 1000*l.* and pay 500*l.*—balance in favour 500*l.*

If B loses he will receive 50*l.* and pay 20*l.*—balance in favour 30*l.*

If C wins he will receive 1000*l.* and pay 500*l.*—balance in favour 500*l.*

If C loses he will receive 250*l.* and pay 20*l.*—balance in favour 230*l.*; so that altogether his winnings will be very considerable, provided that his information leads to good results in two cases out of three, which it may be supposed to do.

At present nothing but the death of the nominator before the race upsets the first of these calculations, or the death or accident of the colt before hedging; but by the proposed alteration of the law, by which all bettors must have a start for their money, these books will have to be entirely remodelled. No one then can make a *certain* book, because he will never know what bets will stand and what will be off, in consequence of horses not starting. But, at the same time, it will prevent such an amount of demoralization as may well call for this stringent measure.

CHAPTER XIV.

RACE MEETINGS.

Sect. 1.—The Committee and Officials.

A race committee is generally formed in every instance in which public races are intended to take place; and they meet at certain times, conducting their business in the ordinary way, with a chairman and secretary. By them the officials are elected, and the stakes and admission-money to the stand, &c., fixed upon. The officials are the stewards, the secretary, clerk of the course and his men, weigher, judge, handicapper, and starter.

The Stewards are generally noblemen or gentlemen of high standing; and they should, if possible, have some knowledge of the proceedings of the turf, since it often happens that they have to decide upon disputed points. They should be careful, for their own security, to ascertain that there are sufficient funds to cover the various prizes advertised in the shape of additions to handicaps, plates, &c., as they are responsible for the amounts.

The Secretary is generally the most important person of the whole, being usually the party to obtain subscriptions to the funds, and very often also to the stakes. He should be an active man, of good business habits, and capable of keeping a register of the proceedings of the committee.

The Clerk of the Course receives the subscriptions to the stakes, collects the amounts of the plates, &c., before starting, pays the amounts over to the winners, keeps the course in order, both before and during the races, by means of his subordinates, causes the bell for saddling, &c., to be rung, and generally arranges all matters connected with the course. In all sweepstakes closing on a certain day which may fall in obtaining the stated number of subscribers, the original subscribers cannot be kept to their engagements, if the stake is reopened. After the terms of a sweepstakes are published, and a single name has been subscribed, no alteration can be made in the conditions without his consent, and that of all others who have appended their names. A subscriber may alter his nomination for a sweepstakes before it closes, but not for a plate. The clerk of the course cannot be too particular in compelling all parties to adhere to the conditions of the various races; and he should also clearly specify the exact weights carried by every horse in making his return to the official registrar. He has, usually, the power of appointing his own subordinates.

The Judge is placed in the box set apart for him at the winning-post, and it is his duty to return the colour of the rider of the first and second horse in each race, with that of as many more as he can. He is provided with a list of the horses weighed, and the colours of their riders. His decision is final.

The Starter is generally on foot, and he is now allowed an assistant, besides a flagman, whose duty it is to stand with a flag flying about a furlong before the starting place, and drop it on a signal from the starter, which shows all the riders that it is a fair start. If, therefore, this flag is flying as they pass him, they must pull up and start afresh. If there is a very large field of horses, and they are young and likely to be awkward, he should marshal them at a hundred yards from the starting-post, and walk down with them to a level with it, when he may give the word with a good chance of a fair and level

start. If any jockey is evidently and wilfully the cause of a false start, the starter reports the same to the stewards, who have power to fine him. When the course is a small and narrow one, as at Chester, it is usual for the jockeys to draw lots for places before starting. The decision of the starter is final, and his testimony against a jockey should always be received and acted upon.

THE HANDICAPPER is sometimes an amateur of some experience, and at others a paid official, who undertakes the duty, and affixes the weights to the list of horses furnished to him. In either case the office is an onerous one, and generally leads to abuse from discontented parties, who have failed in throwing dust in his eyes, and who often are punished for attempting to do it by an extra weight, and perhaps *sometimes, but very rarely*, the innocent are sufferers. There is a prevailing objection to high weights in handicaps, not so much because it is unfair to the horses carrying the top-weights, as because it tries their legs more than their owners like. According to arithmetical progression, 12 to 11 is a less proportion of odds than 9 to 8; but it is the last pound which breaks the camel's back; and though the latter weight may be carried without risk, yet the former is always likely to cause a break-down when the muscles become tired, or to do other damage. The objection, therefore, is a reasonable one as regards the future welfare of the horses, though not always founded upon correct reasoning in reference to the particular race. No one would, if he could help it, ever gallop his horse, on hard ground especially, with more than six or seven stone on his back; and, therefore, it is not to be wondered at that light-weighted handicaps are preferred. The handicapper, however, has nothing to do with the top-weight, which is usually fixed by the committee; and he then allots all the others their weights, according to his view of their powers, judging as far as he can from what he has seen of their running, and from the recorded results of races in which they were engaged out of his sight. To do this, he ought to be present at as many races as possible, and should be able to judge when horses are "pulled," and when they are really meant to win; also, whether they are running in form, or whether they are only half-prepared. These several requisites are not often combined with perfect honesty and freedom from prejudice, and if they were they would still be open to be imposed upon, for no one can possibly be prepared for all the artifices which designing men may and do continually practise.

THE WEIGHER is appointed to see that each jockey carries his appointed weight. He is always ready at the scales before the race, in order that the jockeys may be weighed before starting, and afterwards he must be there to weigh them again. A book is appointed to be kept in which each weight is registered.

SECT. 2.—THE RACE-COURSES.

THE FOLLOWING is the description and length of the various courses of Great Britain, as recorded in "Ruff's Guide to the Turf":—A distance is 240 yards.

ABERGAVENNY is 1 mile round.

ABERYSTWITH is oval, or egg-shaped, 1 mile round, with a hill at the commencement of the first turn, about 300 yards from starting, which continues round the top of the course; a slight descent, then flat all the way, with a straight run in of about 350 yards.

ABINGDON.—Oval, 1 mile and a quarter round, with a good run in; the T.Y.C. is three-quarters of a mile.

ASCOT.—A circular course, short of 2 miles by 66 yards; the first half nearly all on the descent, and the remainder, which is called the Old mile, up hill the greater part of the way. The Swinley Course is the last mile and a half of the above. The New mile is straight, and up hill all the way. The T.Y.C. is the last 5 furlongs and 136 yards of the new mile.

AYR.—A round flat course of 1 mile and 330 yards, with a straight run in of a quarter of a mile.

BATH is nearly an oval of 1 mile and a half, with a straight run in of half a mile.

BECCLES.—A flat circular course of a mile and a quarter, the last third of it flat.

BEDFORD is a flat circle of 1 mile, 4 furlongs, 44 yards.

BEVERLEY.—An oval, or rather pear-shaped course, 1 mile, 3 furlongs, 90 yards round, with a straight run in of nearly half a mile, and a gradual rise for the greater part of the distance. The Kingston Course 1 mile, and the T.Y.C. 4 furlongs 105½ yards.

BLANDFORD.—The Cup Course is 2 miles, starting at the winning chair, running nearly a mile straight, and with a good turn back over the same ground. The Dorsetshire Stake Course is about 3 miles, with a different start, but running into the Cup Course. The T.Y.C. is 6 furlongs, straight.

BRECON.—Flat, rather oblong, with a straight run in of about 500 yards. Once

round and a distance is a mile, or twice round and the long length 2 miles.

BRIGHTON. The Old Course is one mile, 6 furlongs, 265 yards; the New Course, 1 mile, 6 furlongs, 141 yards; the Ovingdean Course, 1 mile, 4 furlongs; the Enclosed Course, 1 mile, 2 furlongs; the Bristol Course is 1 mile; and the T.Y.C. 6 furlongs.

BURTON CONSTABLE (in Sir C. Constable's Park).—Nearly circular, a mile and a quarter, with a straight run in of about 500 yards; and level with the exception of a hill on the top side.

CARLISLE is an oval, 1 mile and 90 yards round.

CATTERICK BRIDGE is an oval flat, of 1 mile and 60 yards, with a straight run in of 3 furlongs and 154 yards.

CANTERBURY is shaped like a cricket-bat, being two miles out and in, with a severe hill from the distance home.

CHATHAM is one mile and 1 furlong, with a straight flat run in of a quarter of a mile and 24 rods; the opposite side of the course is on lower ground, but flat.

CHEADLE (CHESHIRE) is oval, about three-quarters of a mile.

CHELMSFORD is oval, short of 2 miles by about 30 yards, the last half mile being on the ascent. There is a straight mile.

CHESTER.—A flat course of 1 mile and 46 yards round. The Trade Cup Course is 2 miles, 2 furlongs, and 42 yards, starting at the Grosvenor Post. For the 2 mile Course the start is 46 yards past the winning post. The Grosvenor Course is 1 mile, 1 furlong, 216 yards. From the Castle Pole and twice round is 2 miles, 3 furlongs, 67 yards. The T.Y.C. is nearly 6 furlongs.

CHESTERFIELD is nearly circular, and about a mile and three-quarters round; the run in is about a quarter of a mile, straight, and rather on the ascent.

COVENTRY is 1 mile round, with a straight run in of more than one-third of a mile.

CROXTON PARK.—The New Course is pear-shaped, 22 yards short of 2 miles, with a flat straight run in of 840 yards.

DERBY.—Oblong, a mile and a quarter in length, with a straight run in of nearly half a mile.

DONCASTER is a round course, of about 1 mile, 7 furlongs, and 70 yards. The other courses are portions of this circle, viz.—Red House in, 5 furlongs, 152 yards; T.Y.C., 7 furlongs, 214 yards; Fitzwilliam Course, 1 mile, 4 furlongs, 10 yards; St. Leger Course, 1 mile, 6 furlongs, 132 yards; Two-mile Course, 2 miles 15 yards; Four-mile Course (twice round), 3 miles, 7 furlongs, 291 yards; Cup Course, from the Red House and once round, 2 miles, 5 furlongs, 14 yards.

DUMFRIES.—Nearly oval, 1 mile and 3 furlongs round.

DURHAM.—Circular, 1 mile in extent. The T.Y.C. is 6 furlongs.

ECCLES.—An oval of three-quarters of a mile, with a straight finish of a quarter of a mile.

EDINBURGH.—Nearly oval, measuring 1 mile, a quarter, and 46 yards, with a nearly straight run in of half a mile, rising slightly from the distance.

EGHAM is nearly flat, 66 yards short of 2 miles, and in shape resembling the figure of 9. The new mile is nearly straight.

EGLINGTON PARK.—An oval course, 150 yards less than 2 miles, and flat, with the exception of a rather steep hill about half a mile from the winning post. The run in, which forms the T.Y.C., is a straight run in.

EPSOM.—The Old or Cup Course is 2 miles of an irregular circular form, the first mile up hill. The New Derby Course is exactly a mile and a half, and somewhat in the form of a horse-shoe, the last half mile being straight. The first half mile is on the ascent, the next third of a mile level, the bend into the straight run home and until within the distance of the descent, and the remainder on the rise. The New T.Y.C. is 6 furlongs; the Old T.Y.C., or Woodcot Course, something less than half a mile; the Craven Course one mile and a quarter, and the Metropolitan Course, starting at the winning post, 2 miles and 2 furlongs.

EXETER.—The Old Course is an oval of 2 miles, two-thirds of which are nearly flat, and the remainder rather hilly. The last half mile is straight with a slight ascent and good coming in. The New Course is round, and nearly level of 1 mile, and the Three-mile Course is formed out of the New and Old Courses.

GOODWOOD.—The New Cup Course is 2 miles and a half, starting 100 yards west of the winning post, running out to the west of the Clump, returning by the east. T.Y.C. is a straight three-quarters of a mile. For the Queen's Plate, the horses start to the north-west of the Stand, run over to the east of the Clump, go to the outside circle of the hill, and return by the east of the Clump, being 3 miles, 5 furlongs, 97 yards. The Maidstone Course is 2 miles, 1 furlong, 44 yards. For the New Mile the horses start on the G. S. Co.

and run home to the westward of the Clump. "Two Miles" and "One Mile and three quarters" are portions of once round, which is 2 miles, 1 furlong, 40 yards. "A Mile and Half" to be run on the New Course.

HAMPTON.—A flat oval course; the Old Course a mile and a quarter; the New one about a mile and a half. The T.Y.C. is 6 yards short of half a mile.

HEREFORD is oval, 1 mile and 330 yards, with a straight run in of about 600 yards.

HOLYWELL.—Oval, about 2 miles and 1 furlong, with a straight run in of half a mile up a gradual rise.

HUNTINGDON is oval and flat, short of 2 miles by a distance, with a straight run in of nearly half a mile.

IPSWICH.—Two miles round, with a straight run in of half a mile.

KELSO.—Oblong, a mile and a quarter round, and level with the exception of a gentle rise from the Stand to the Chair.

KNIGHTON.—Nearly oval, 1 mile, 200 yards in length, with a nearly straight run in of a quarter of a mile.

KNUTSFORD.—A round course of 1 mile only, and nearly flat.

LANARK.—One mile, nearly circular and quite level, with a straight run in of 2 furlongs and a half.

LANCASTER is in shape similar to the letter D, the straight line in the letter being the run in, and the head a rise; the length 1 mile and 60 yards.

LEAMINGTON.—Oval, 250 yards short of a mile, with a straight run in of 385 yards.

LEICESTER.—Nearly oval, a mile and 50 yards; nearly flat, with a rise before coming to the run in, which is straight, 700 yards in length, and flat.

LEITH.—On the Sands; an oblong of a mile and a quarter.

LEOMINSTER.—A flat circle of 1 mile.

LEWES.—The New or Queen's Plate Course is about 2 miles, 4 furlongs, 175 yards; the other courses are portions of it. The T.Y.C. is 5 furlongs.

LICHFIELD.—An oblong square, exactly 2 miles round, starting at the distance.

LINCOLN is a circular course of 1 mile, 6 furlongs, 23 yards, with a straight run in of nearly half a mile.

LIVERPOOL.—An oval course of 1 mile and 712 yards, one side gently declining, the other rising from the canal side. The Cup Course is 170 yards short of 2 miles. The T.Y.C. is 4 furlongs, and the "Stable-turn" Course 1 mile and a half. There is a straight run in of about 1000 yards. The Steeplechase Course is 4 miles, 406 yards.

LUDLOW.—Nearly circular, with very little rise or fall, except at the Butt turn, and not quite a mile and a half round.

MALTON.—An oval and nearly flat course of a mile and a half, with a straight run in, called "The Shorts," or half a mile, and free from objectionable turns. The T.Y.C. is 6 furlongs. It is on Langton Wold.

MANCHESTER is a triangular course of 1 mile and 20 yards, perfectly flat, except the run in, which is 700 yards in length, and on a gentle ascent. The T.Y.C. is 6 furlongs.

NEWCASTLE is composed of four unequal sides, and nearly approaching to a triangle; once round, or Hotspur Course, measured 8 yards from the inside ditch, being 3162 yards. The T.Y.C. is 6 furlongs; and the Mile, Two-mile, and longer courses are exactly of the stated distances. There are hills in different parts, a straight running on the west side of 400 yards, on the south side of 543 yards, on the east side of 743 yards, and on the north, to the winning-post, of 480 yards.

NEWCASTLE (STAFFORDSHIRE) is circular, exactly 1 mile.

NEWMARKET.—The Beacon Course is 4 miles, 1 furlong, 173 yards.—Last 3 miles of B.C., 3 miles, 74 yards.—Ditch in (from the running-gap to the end of B.C.) 2 miles 119 yards.—The last mile and a distance of B.C., 1 mile 240 yards.—Audley End Course (from the starting-post of the T.Y.C. to the end of B.C.) 1 mile, 7 furlongs 56 yards.—Two middle miles of B.C., 1 mile, 7 furlongs, 158 yards.—Round Course, 3 miles, 4 furlongs, 139 yards.—Summer Course (last 2 miles of R.C.), 2 miles.—Suffolk Stakes Course (last mile and a half of R.C.), 1 mile and 4 furlongs, 2 yards.—Bunbury mile (a straight mile, finishing at the end of R.C.), 7 furlongs, 196 yards.—Chesterfield Course (last half of B.M.), 3 furlongs 212 yards.—Across the Flat, 1 mile, 2 furlongs, 73 yards.—Rowley Mile (last mile of A.F.), 1 mile 17 yards.—Ancaster Mile (last mile straight), 1 mile 18 yards.—Criterion Course (from the turn of the Lands in), 5 furlongs, 182 yards.—Clermont Course (from the Running Gap to the Duke's Stand), 1 mile, 6 furlongs, 55 yards.—Ditch Mile (first mile of A.F.), 7 furlongs 201 yards.—Abingdon Mile (on the flat), 7 furlongs 212 yards.—First half of Ab. M., 3 furlongs 215 yards.—Last half of Ab. M., 3 furlongs 217 yards.

—Last mile and a half of T.M.M., 1 mile, 4 furlongs, 29 yards.—Two-year-old Course (on the Flat), 5 furlongs, 140 yards.—New Two-year-old Course (on the B.M.), 5 furlongs 136 yards.—Last half mile of New T.Y.C., 4 furlongs.—Yearling Course (on the Flat), 2 furlongs 52 yards.—Bretby Stakes Course (last three-quarters of R.M.), 6 furlongs. Cesarewitch Course (from the starting-post of T.M.M. to the end of the Flat), 2 miles, 2 furlongs, 28 yards.—Cambridgeshire Course (last mile and a distance, straight), 1 mile 240 yards.—Champion Stakes Course (from the starting-post of R.M. to the Duke's Stand), 1 mile, 3 furlongs, 219 yards.

NEWPORT (SALOP).—Would be oval but for a straight run in of 500 yards, is flat; and 1 mile round, wanting 160 yards.

NEWTON.—A triangular course of about 1 mile and a quarter, with a strong hill and a straight flat run in of nearly half a mile. The Golborne Course is the last half mile.

NORTHAMPTON.—An oval course of a mile and a half, and 180 yards, with a strong hill about half-way from home, and a straight run in of half a mile.

NOTTINGHAM.—A round course of 1 mile, 2 furlongs, 11 yards, with a straight run in of nearly half a mile. The T.Y.C. is 6 furlongs.

OSWESTRY, in form, resembles an ill-shaped figure of 8, and only a few yards short of 2 miles, ending in a straight run in of nearly half a mile, on a gentle ascent.

OXFORD.—About a mile and a half round, and quite flat.

PAISLEY.—Nearly square, with little rising ground, and 1 mile 25 yards in extent. The T.Y.C. is 6 furlongs.

PERTH.—A flat course of 1 mile 8 furlongs.

PLYMOUTH.—About 1 mile and a half round, flat, and nearly oval, with a straight run in of a third of a mile.

RADCLIFFE.—Oval, 1 mile round, nearly flat, with a straight run in of 700 yards.

READING.—Triangular, nearly flat, exactly a mile and a half round, with a straight run home of about a third of a mile.

RICHMOND.—Oval, 1 mile, 4 furlongs, 184 yards, with a long straight run in, rising to the distance-post. From the Grey Stone in, 4 furlongs 200 yards straight; from the Lime-kiln Gate, 6 furlongs 100 yards.

RIPON.—Two long sides, with oval turnings, 1 mile and 112 yards round. The T.Y.C. is nearly three-quarters of a mile.

ROCHESTER AND CHATHAM.—Oval, 1 mile and 1 furlong, with a run in of 2 furlongs 24 rods.

SALISBURY.—The mile course is straight and flat, with the exception of a rise for the first 50 yards. The T.Y.C. is the last three-quarters of a mile. For the Two-mile Course the horses start beyond the winning-chair, run past it and the stand, and diverge to the left from the straight course, which they re-enter at the T.Y.C. starting-post.

SANDBACH.—Oval, upwards of 6 furlongs round, and nearly level.

SHIFFNAL.—A triangular course, about 1 mile.

SHREWSBURY.—An oval of 1 mile 195 yards, with a rise of 6 feet 6 inches in a straight run in of nearly half a mile.

SOUTHAMPTON.—Oval, 1 mile and a half round, with a run in of nearly three quarters of a mile. The T.Y.C. is 280 yards short of a mile.

STAFFORD.—A mile course, which would be a complete oval, but for a straight run in of about a quarter of a mile.

STIRLING.—An oblong of exactly 1 mile, 3 furlongs, 140 yards. The T.Y.C. about 4 furlongs, and the run in about 406 yards straight. There is a sharp hill immediately before the run in, and another hill in a gradual turn after passing the winning-post.

STAMFORD is rather oval, with a straight run in of nearly half a mile; it is flat, but there is a new straight mile, the first half of which is slightly on the rise till it joins the Round Course. The Cup Course, three times round, is exactly 4 miles.

STOCKBRIDGE is nearly a round course, somewhat hilly, with a straight run in of nearly three-quarters of a mile: there is also a straight mile.

STOCKTON.—An oblong of about 1 mile and 100 yards, with a run in, nearly straight, of half a mile, having a slight rise from below the distance to within 109 yards of the chair. The Cleveland Course about half a mile. The T.Y.C. 6 furlongs. Blue Post is 7 furlongs; and from the Red Post to the winning-post, and once round, 1 mile and a half.

STOURBRIDGE.—A triangular course of 7 furlongs 26 yards, with easy turns and a good run in. The T.Y.C. is 4 furlongs 20 yards.

SUTTON PARK.—One mile round, with a run in, up rising ground, of 600 or 700 yards; on the opposite side there is a slight descent.

TARPORLEY.—One mile round, the last half being nearly straight.

TAVISTOCK.—Round, or rather oval, 2 miles, a little hilly, the last three-quarters of a mile nearly straight.

TEWKESBURY.—Circular, and quite flat, upwards of 2 miles round, with a straight run in of three-quarters of a mile.

TUNBRIDGE WELLS.—Circular, 1 mile and 246 yards in length, and rather hilly.

UPTON-ON-SEVERN.—A perfect flat, 2 miles and 2 furlongs round, with a straight half mile.

WALSALL.—Oval, 1 mile round, short of a few yards. There is rather a severe hill of about 150 yards, a quarter of a mile from the starting-post, but the run in is straight, flat, and nearly half a mile in length.

WARWICK.—Once round is 1 mile, 6 furlongs, 60 yards. The Leamington Stake Course is 2 miles and 44 yards. The T.Y.C. is a few yards short of 7 furlongs.

WENLOCK.—An oval course of about a mile.

WEYMOUTH.—Oblong, level, and about a mile round.

WINCHESTER is 2 miles round, with a straight run in of about three-quarters of a mile, the first of which is a strong hill. The T.Y.C. is 6 furlongs.

WOLVERHAMPTON.—An oval of 1 mile, 1 furlong, 102 yards, having a hollow at the north-western extremity. The T.Y.C. is a straight half mile.

WORCESTER.—Flat and oval. The T.Y.C. half a mile, and two and three-year-old length, 5 furlongs straight; but for the mile and longer distances the course is crossed in the middle, making a figure of 8, and being once over, about 1 mile and three-quarters.

WREXHAM.—One mile in extent, nearly oval, the ground slightly undulating, the last quarter of a mile straight, with a gentle rise. The T.Y.C. is a few yards more than half a mile.

YARMOUTH.—Level, "once round," being 1 mile, 2 furlongs, 200 yards; and T.Y.C. 5 furlongs 80 yards straight.

YORK.—Circular and quite flat, curving at the point where the old winning-post stood, the new one being 50 yards nearer the Stand, leaving a straight run in of 5 furlongs and 44 yards, which forms the T.Y.C. The course once round is 1 mile and 6 furlongs and rather more than 50 yards; the other courses are portions of the circle, and are the exact distances described in the conditions of the stakes.

CURRAGH COURSES.—New Chain, 3 furlongs 69 yards; Yearling Length, 5 furlongs 153 yards; Conolly's Mile, 1 mile; Two-year-old Course, 1 mile 130 yards; Sir Ralph's Post, 1 mile, 1 furlong, 94 yards; Three-year-old Course, 1 mile, 2 furlongs, 22 yards; Post on the Flat, 1 mile, 3 furlongs, 58 yards; First Post on the Flat, 1 mile 5 furlongs; Red Post, 1 mile, 6 furlongs, 8 yards; Hamilton Course, 3 miles, 4 furlongs, 133 yards; Over the Course, 4 miles; Sligo Post, a few yards longer than the Red Post.

NEW COURSES.—Yearling Course, 2 furlongs 147 yards; Blue Post, 2 furlongs 178 yards; Two-year-old Course, 5 furlongs 186 yards; Yellow Post, 6 furlongs; Anglesey Post, 6 furlongs; Northumberland Post, 1 mile; Bruen Post, 1 mile; Royal Course, 1 mile, 3 furlongs, 144 yards; Peel Course, 1 mile, 6 furlongs, 12 yards; Rathbride Post, 1 mile 130 yards; Mulgrave Mile, 1 mile; Rossmore Post (on Peel Course), 1 mile 4 furlongs; Waterford Post, 1 mile 4 furlongs on the Peel Course; Marquis's Post, 2 furlongs 178 yards.

THE PRINCIPAL WEIGHT-FOR-AGE RACES now run in England are the various Produce Stakes for two-year-olds, at Newmarket, Ascot, Goodwood, Doncaster, &c. &c.; the 2000 Guineas and 1000 Guineas Stakes, run at Newmarket, in April, the former for three-year-old colts and fillies, the latter for fillies alone; the Derby and Oaks on similar conditions as to sex, run at Epsom in May; the Ascot Cup, the Doncaster St. Leger and Cup, and the various Queen's Plates. These are all good tests of merit, which is not necessarily the case with the numerous HANDICAPS; THE CHIEF OF WHICH ARE—the City and Suburban and the Great Metropolitan, both run at Epsom Spring Meeting; the Chester Cup, early in May; Somersetshire Stakes, towards the end of May; Goodwood Stakes, in July; and the Cesarewitch and Cambridgeshire, at the two Newmarket October Meetings. Including the above Stakes, there were run in the year 1854, in England, Wales, and Scotland, 1608 races, amounting in value to £222,844; and in Ireland 211 races, to the value of £14,283; from which statistics may be gathered the importance to the community of a proper regulation of racing, not only in regard to the morals of the people, but in a pecuniary point of view.

SECT. 3.—THE WEIGHTS FOR AGE.

The annexed table gives the standard weights for age, according to varying distances which are to be run:—

SCALE OF STANDARD WEIGHTS FOR AGE.—(*Admiral Rous*).

HALF A MILE.

Age. Years.	April 1. st. lb.	May 1. st. lb.	June 1. st. lb.	July 1. st. lb.	Aug. 1. st. lb.	Sept. 1. st. lb.	Oct. 1. st. lb.	Nov. 1. st. lb.
2	5 2	5 7	5 12	6 1	6 3	6 5	6 7	6 8
3	7 5	7 7½	7 10	7 13	8 0	8 1	8 1½	8 2
4	8 7	8 7	8 7	8 7	8 7	8 7	8 7	8 7
5, 6, and a.	8 9	8 8	8 7½	8 7	8 7	8 7	8 7	8 7

T.Y.C., OR SIX FURLONGS.

2	4 9	4 13	5 3	5 6	5 8	5 10	5 12	6 0
3	7 2	7 4	7 6	7 7½	7 9	7 10	7 11	7 12
4	8 7	8 7	8 7	8 7	8 7	8 7	8 7	8 7
5, 6, and a.	8 13	8 12	8 11¼	8 11	8 10½	8 10	8 9	8 8

ONE MILE.

2	4 2	4 4	4 7	4 10	4 13	5 2	5 4	5 5
3	6 12	6 13	7 1	7 4	7 6	7 7	7 8	7 9
4	8 7	8 7	8 7	8 7	8 7	8 7	8 7	8 7
5	9 0	8 13½	8 13	8 12½	8 12	8 11½	8 11	8 10
6 and a.	9 1	9 0	8 13½	8 13	8 12	8 11½	8 11	8 10

TWO MILES.

2	0 0	0 0	0 0	0 0	4 2	4 7	4 9	4 11
3	6 3	6 7	6 12	7 0	7 2	7 5	7 6	7 7
4	8 7	8 7	8 7	8 7	8 7	8 7	8 7	8 7
5	9 2	9 1½	9 1	9 0½	9 0	8 13	8 12	8 11½
6 and a.	9 5½	9 5	9 3½	9 3	9 2	9 1½	8 13	8 12

THREE MILES.

2	0 0	0 0	0 0	0 0	0 0	0 0	4 0	4 4
3	6 0	6 4	6 8	6 11	6 13	7 0	7 2	7 4
4	8 7	8 7	8 7	8 7	8 7	8 7	8 7	8 7
5	9 4	9 3	9 2	9 1½	9 1	9 0½	9 0	9 0
6 and a.	9 8	9 6½	9 6	9 5	9 4	9 3	9 2	9 1

FOUR MILES.

3	5 10	6 0	6 4	6 7	6 9	6 10½	6 12	7 0
4	8 7	8 7	8 7	8 7	8 7	8 7	8 7	8 7
5	9 6	9 5	9 4	9 3	9 2½	9 2	9 1½	9 1
6	9 11	9 9	9 8½	9 7	9 6	9 5	9 4	9 4
aged.	9 13	9 10	9 9	9 7	9 6	9 5	9 4	9 4

Mares to be allowed 5 lb. from April to June 1st; 3 lb. from June 1st to September 1st; 2 lb. from September 1st to November. Geldings allowed 3 lb. throughout the year.

The following abbreviations are commonly used in racing parlance:—

1st. FOR THE VARIOUS NEWMARKET COURSES.—An. M. Ancaster Mile—Ab. M. Abingdon Mile—B. C. Beacon Course—B. M. Bunbury Mile—D. I. Ditch in—D. M. Ditch Mile—T. M. M. of B. C. Two Middle Miles of Beacon Course—L. T. M of B. C. Last Two Miles of Beacon Course—A. F. Across the Flat—T. Y. C. Two-year-old Course—T. L. I. From the turn of the Lands in—Cr. C. Criterion Course—C. C. Clermont Course—R. M. Rowley Mile—Y. C. Yearling Course.

2nd. FOR DESCRIPTION OF HORSE.—c. stands for colt—f. for filly—g. for gelding—h. for horse—p. for pony—b. for bay—bl. for black—br. for brown—gr. for grey—ch. for chestnut—ro. for roan—d. for dun—yrs. for years.

3rd. FOR CONDITIONS OF RACE.—gs. stands for guineas—sov. for sovereigns—h.-ft. for half-forfeit—pd. for paid—p.p. for play or pay—recd. for received—dr. for drawn—dis. for distanced—f. for forfeit.

SECT. 4.—THE JOCKEY CLUB.

THE AFFAIRS OF THE TURF are under

the control of the Jockey Club, consisting of a number of noblemen and gentlemen of the highest respectability and honour, who admit fresh members, on a vacancy occurring, by vote among themselves. They usually meet at Newmarket, but sometimes elsewhere, according to their own option. Three stewards are elected (one of whom retires every year), who generally decide all disputed cases arising throughout the kingdom; but their special office is the management of the races and race-course at Newmarket, the latter being under their tenancy. Here they can pass what rules they please, which are binding upon all who run, because they have full power to warn off recusants, and to refuse to allow them either to train or run horses, to ride, or even to make their appearance on the ground. This wholesome control is of great service to the turf, and it is only to be regretted that it does not extend to the whole kingdom. Generally, however, other races are held under the same conditions as the Newmarket; but, being on public land, there is not often the power to warn off improper characters, as at Newmarket, Goodwood, and some few others. The following rules of the Jockey Club are the only ones which are generally interesting, as they apply to the whole kingdom:—

Rule 5.—All disputes relating to racing at Newmarket, or bets on racing elsewhere, if any of the parties interested should request the interference of the stewards, shall be determined by three stewards and two referees (who shall be members of the Club), one to be chosen by each of the parties concerned, if either shall desire to have referees. If only two stewards be present, they shall fix upon a third person, being a member of the Club, in lieu of the absent steward; but the stewards, if they think fit, may call in any other members of the Jockey Club to their assistance, or may refer the case to a general meeting of the Jockey Club, if the matter in dispute shall appear to them to require it.

Rule 6.—If any dispute arise elsewhere than at Newmarket, it shall be referred to the stewards of the Jockey Club. The matter must relate to horse-racing, the facts or points of difference to be reduced into writing, and be sent with the sanction of the stewards where the matter in question occurred, and the parties must agree in writing to abide by the decision of the stewards of the Jockey Club.

Sect. 5.—The Riding of Races.

Professional Jockeys.—By an examination of the pages of "Ruff's Guide," already repeatedly referred to, it will be found that there are 209 jockeys during the year 1855 engaged in riding races, or open to engagements. Many of these ride only for their own stables, in which they are usually employed as exercise-lads of a superior class—that is, to ride trials, lead gallops, ride sweats, &c., and are not to be obtained except by permission of their masters to whom they are articled. Others, who are in great request, are regularly engaged nine or ten deep, having a first, second, third, and fourth master, &c., and can always be claimed by each in succession for any particular race. The education, fees, &c., of the professional jockeys have already been alluded to.

Gentlemen Jockeys are defined in a very loose and unsatisfactory manner in most cases where the definition is merely as above. Sometimes, however, a further definition is given when they are confined to members of certain recognised clubs, or officers of the army or navy, &c. Any person who can be proved to have ever ridden for hire is now considered to be a professional, and ranks among that class, where penalties are affixed.

The Riding a Race, whether by amateurs or professionals, ought to be conducted on the same principle; and it demands the following essential points:—first, a good and powerful seat; secondly, good hands; thirdly, a good knowledge of pace; and fourthly, a head to take advantage of these various elements of success. The jockey's seat is of a peculiar form, and he rides very differently from any other horseman, since his whole object is to give as much ease as possible to his horse, and allow him to gallop with as little restraint as possible, as far as his weight is concerned, whilst at the same time he uses just sufficient restraining power with the bit to keep his horse collected, and cause him to avoid that "spread-eagle" style of gallop which destroys a horse's chance at once. But this is the A B C of jockeyship; and though there are numberless degrees in it, yet almost every jockey has a sufficiently good seat to do what is here described; his hands are also generally fine enough, because from his early education and constant riding he has acquired sufficient command of the horse's mouth to do what is wanted; though here, again, there are no doubt comparative degrees. The merits of a jockey however, reside in the head, where must be concerted the plan of the campaign which is to be fought, and that without a second's

loss of time after the events have presented themselves which will cause the decision to be made. It is true that in most cases the jockey has his orders to make running or to wait, but they are always conditional when the jockey is an experienced artist, or ought to be if they are not. Nevertheless, even when strict orders are given, numberless little accidents occur to call out the courage, skill, and presence of mind of the jockey. First of all, in the start, he must be always prepared for the word, yet without being himself excited, or, as a consequence, fretting and exciting his horse. With one eye on the starter and the field, and the other on his own horse, he awaits the word, and then either gets quickly away, if he is ordered to do so, or keeps third or fourth, &c., as he thinks best, or is instructed. Again, much depends upon the temper of the horse he is riding, for, in spite of orders to the contrary, if he finds that he is destroying his chance by keeping him second, he should let him go in front until he can quiet him and let him settle down into his place. Here the man with a good head is often shown more by his daring to disobey orders than by his slavishly following them to the certain destruction of his chance. The avoiding loss of ground is also a grand essential, requiring, however, good hands more than head, except when judgment is wanted in getting through a ruck of horses, in which a decision must be come to whether to attempt to go inside, or out, or through, and upon which often the fate of a race depends. Sometimes it is impossible to get through them, and the attempt is fatal, whilst at others the experienced eye detects that they are all, or nearly all, sinking, and cannot possibly impede him in his attempt; because they are sure not to stop exactly at the same moment, and one by one they make gaps which he can easily fill. Finally, when he reaches the front rank the jockey has to display his art in finishing at the right time, and in the right manner. At this point of the race his horse may be the freshest of the lot and the gamest, yet with a slight want of pace, and then he sets to in good time and wins by a display of lasting qualities, with perhaps a liberal use of the whip and steel. Or he may be on the fastest at a short struggle, yet evidently on one which is unfit for a long race, and here his object is to wait at a short distance behind till the very last moment, if he thinks the leading horses will only beat themselves ready to his hand by racing at one another from the distance. If he can only see them do this his chance is not yet out: he takes a pull at his horse, collects him, and yet keeps him handy to the struggling leaders; then, when he thinks he can reach them at the post, he comes with a rush which his poor, tired yet speedy horse can just live through, and is victorious, but is again passed perhaps a length beyond the winning-post. On the other hand, the clumsy professional, or the inexperienced gentleman-jockey, begins by ramming his spurs into his horse's sides for fear of losing ground at the start, which sets him all abroad changing his legs, and in difficulties from the first. His horse, however, is so game that he recovers himself and answers his rider's call to go in front, which he reaches after a rattling struggle for the lead; he then recollects that his instructions are to lie second or third, and therefore he stops his horse, again, perhaps, causing him to change his leg. An experienced eye behind detects this and immediately comes at him, when, in alarm, he takes up the cudgels and runs at his antagonist, who gives way rather than distress his own horse, and having achieved his object. But he is not long left quiet; another fancies he can do the same, and tries with good effect, until at last, with the best horse in the race, he is unable to keep his place when a hundred yards from home, and instead of being an easy winner without whip or spur, is unable to obtain the slightest response from the severest exhibition of both of which he is capable. He goes in still, perhaps, flogging and spurring with a loose rein, his horse extended to the utmost, and himself mortified and exhausted. When such scenes as these are constantly occurring on the race-courses where gentlemen-jockeys exhibit, it is no wonder that such races are not favourites with the public, or that it should be found that seven pounds are not enough to bring them up to a level with the professional. There are, however, some of this class who can steer a horse in a race with a steady hand and cool head, but, among the light-weights especially, they are rarely to be met with. Amateur races are therefore nearly a dead letter, and the professionals have the course to themselves.

PART II.

HORSE-RACING.

BOOK II.—HURDLE-RACING AND STEEPLECHASING.

CHAP. I.
HURDLE-RACING.

SECT. 1.—OBJECTS OF THE SPORT.

THE OBJECTS of hurdle-racing, in point of general utility, are difficult to discover, since it is attended by no good result that I am aware of, except affording amusement to the crowd, in which it does not seem to succeed to the same extent as it used to do. Formerly it was a very common adjunct to ordinary country race meetings, but since the very general introduction of steeplechases it has lost its attractions, and an advertised hurdle-race seldom commands a good entry, except at the same time with a steeplechase, nor does it draw a crowd. No purpose, therefore, for which races are established is answered, and the consequence is that hurdle-races are very generally abandoned. The hardness of the ground is a great drawback during the summer season, and a horse meeting with a fall not only shakes himself sadly, but often damages his rider, and broken collar-bones or arms or thighs, are the frequent attendants upon these amusements. Generally these races are for two miles, over four hurdles, and these last are almost always frail affairs, and easily galloped through; so that jump is an apology for what it is intended to represent, and frequently the hurdle is knocked down by the first horse, thus letting all the others through without an effort.

SECT. 2.—HORSES USED.

WORN-OUT RACERS, or those which are not fast enough for flat-races, are generally condemned to finish their career over hurdles, where their greater quickness in jumping sometimes makes them more successful than over the flat. But almost always horses are used which are quite, or very nearly, thorough-bred; and the less they jump the better, provided only that they do not lose their stride, and manage somehow to get over or through the hurdles without loss of pace. If a horse dwells at his hurdle, he not only loses time but he loses power in stopping himself first, and then in starting afresh, so that it is very seldom that such a horse is successful; though there have been some instances of hurdle-racers which would do this at every hurdle but the last, and yet could manage to win—as, for instance, Mr. Ekin's Duenna, a great winner ten years ago.

SECT. 3.—TRAINING, &c.

THE TRAINING for hurdle-races is exactly the same as for flat races, except that an occasional practice over hurdles is necessary; but if the horse will take them kindly without either refusing them or over-jumping himself, he may be considered perfect, and be trained as for an ordinary flat race. When once he is sufficiently practised he should not be disgusted with the amusement, and should seldom be taken over any kind of fence on hard ground, which few horses like, and which always does more or less harm from shaking the joints or injuring the feet. In teaching to jump hurdles a leader should always be first sent over them, as without a little excitement of this kind few horses will either take to jump or, when perfect, go at them without reluctance. Over-jumping is worse than the reverse in the race itself, though it is generally to be cured by practice; but as it takes too much out of a horse for him to be able to exert himself fully afterwards, it is fatal to the result of the race. Until, therefore, the horse will just clear his hurdles (and if he raps them a little so much the better), he is not fit for hurdle-racing. Subject to this difference, that is, as relates to the jumping, the trials, &c., should be exactly the same as laid down in the sixth chapter of the last book.

Sect. 4.—The Weights, Jockeys, and Courses.

The Weights for hurdle-races were, until lately, almost always according to age; but now, in accordance with the prevailing fashion, handicap weights have generally been adopted. The same objection applies to them in this section of the turf as to the corresponding kind of weights in flat-racing, to which I have already alluded.

The Course is almost in every case some established race-course, and in the summer invariably so. When hurdle-racing is made an adjunct to steeplechasing it is only when the latter is held at some regular race-course, upon which the hurdles are fixed, as at Liverpool, Hereford, Worcester, &c.

The Jockeys for hurdle-racing are sometimes steeplechase riders, and at others the inferior grade of flat-race jockeys.

Sect. 5.—Laws.

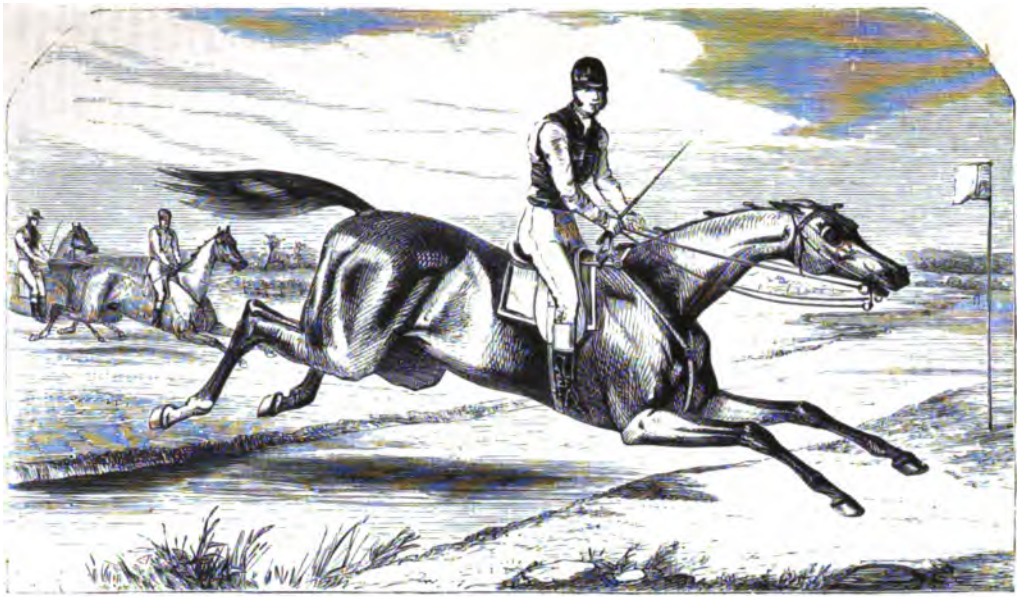
The Laws of hurdle-racing are the same as those of flat-racing, the only condition added being the necessity for getting over or through the hurdles which are fixed on the course; but so that the horse passes between the two parts occupied by the posts to which the hurdles are fixed at each end, the law is complied with, even if no jump whatever takes place, and the hurdle was down at the moment of passing.

CHAPTER II.

STEEPLECHASING.

Sect. 1.—Objects of Steeplechasing.

This fashionable amusement was brought into notice about thirty-five years ago, avowedly for the purpose of encouraging the breed of hunters and cavalry horses, which were said to have degenerated from their old form and powers, in consequence of the general abolition of three and four-mile races under high weights, and the substitution of shorter races at light weights, especially of those for two-year-olds. It was, therefore, supposed that if steeplechases were run over courses of four miles, and at weights which at first were fixed at 12st., a market would be established for horses capable of such exertions, and the general breed of these animals would be improved. With this view steeplechases were established at St. Albans, Aylesbury, and other places, the distance being generally about four miles, and at first merely from point to point; both being fixed, and the riders allowed to take their own course, so that 100 yards of road were not ridden by them at any one time. The line was generally a severe one, and often so much so that only one or two horses succeeded in arriving at the winning-post, the rest being stopped by accidents, or by refusing to take some formidable fence. At that time, the only mode of witnessing the whole or the greater part of a steeplechase, was to ride as near as possible, by taking advantage of roads, &c., and in this way some hundreds of mounted spectators were generally present. In spite of the size and impracticability of the fences few cases of permanent injury or death to horse or rider occurred; and the sport becoming popular, it was resolved to make the course circular, or as nearly so as the nature of the ground would admit, and thus to allow any number of spectators to see the whole of the chase without trouble or risk, either by placing them on an adjoining eminence, or by taking advantage of a race-stand, if such a building was available. In process of time, and from the same causes, the same thing happened with steeplecases as with flat-races twenty years ago, handicaps were introduced, and not being under the control of the Jockey Club, more flagrant instances of fraud were committed than even on the established race-course. Some excuse may perhaps be offered for their introduction, when it is remembered how Mr. Elmore's two horses—Lottery and Gaylad—swept away all the best prizes for several years. After twenty large sweepstakes had fallen to their prowess, and when even the double penalty of 14lb. for winning failed to stop Gaylad at Chelmsford, in 1841, though certainly 18lb. had succeeded with Lottery at Liverpool in the same year, it can scarcely occasion surprise that some expedient should have been adopted; but that the system of penalties would have been better than the handicap is now, I think, clearly proved. Newport Paguell commenced with



DESPERATE EFFORT OF THE STEEPLE-CHASER TO CLEAR A WATERJUMP. P. 434.

one in which the top-weight was 12st. 12lb., and the lowest 10st. 10lb.; but, nevertheless, Lottery and Gaylad were first and second. But in a second attempt, in the same year, the handicapper, by crushing Lottery with 13st. 6lb., and Gaylad with 12st. 12lb., succeeded in letting in Luck's-all, carrying, however, 11st. 5lb., the lowest weight being 10st. 7lb. Next came Hereford, when Gaylad, with 12st. 8lb. on him, was at 3 to 1, and *required the additional weight of a double-rein bridle, with all the power of a Mason to stop him.* After this Liverpool, still adhering to 12st. each, as the weights, with a penalty upon Lottery for winning of 18lbs., allowed Gaylad to carry on the series of successes achieved by Mr. Elmore. These lasted through 1842-3, in spite of handicaps and penalties, Gaylad, with 12st. 8lb. on him, winning at Oxford, though second only at Worcester; but succeeding again at Northampton (hand.), and at Nottingham and Chelmsford (12st. each, with 14lb. extra). This, however, was their culminating point, for partly by their severe work, and partly from their high weights, no stake was added by them to the list after this time, except a small one by Lottery, in 1844. Discount, Dragsman, Vanguard, and Peter Simple (the grey), now had a throw in, whilst the two, up to this time, almost certain winners were scratched before running, or else failed in the actual trial. Perhaps they were reserved for a better day, but it never came, and few horses since that time have won more than two or three large steeplechases. Besides the evils inherent in the very nature of handicaps, there was also in the steeplechases the misfortune that any rider might easily pull his horse, either at his fences or elsewhere, without the possibility of detection, unless he were so awkward as to be incapable of properly carrying out his orders, as happened once with a very celebrated grey horse. At first steeplechases were patronized and supported by a sprinkling of noblemen and gentlemen, who gave long prices for horses, in the hope of carrying off the coveted prizes, or at all events of possessing valuable hunters, if they failed in the first object; but finding that they seldom were allowed to win, and that their horses were, in addition, spoiled for hunting, they have gradually abandoned the field, and the stakes were for a time almost entirely contested by trainers and horse-dealers. One chief reason of this temporary want of support was the discovery of the frauds which their supporters too often practised; but not much less was the disappointment felt by the well-wishers to their country, when they arrived at the conclusion, from experience, that they not only spoilt the individual horses engaged, but that they did not encourage the breeding of weight-carrying hunters, for which they were mainly established. At first, when the fences were really such as only a perfect hunter could get over, none but such horses were of any use; and if these courses had continued to be fixed upon, no doubt some little encouragement might have been afforded to the breeder to produce strong yet active horses, of the description of Vivian, Grimaldi, Moonraker, &c., all of which could have carried 16st. with ease. But in order to collect a large field, and with it a paying crowd, the system of handicaps introduced a lot of weedy animals incapable of carrying much more than 9st., and differing only from our ordinary race-horses in being slower. To meet their requirements, the fences were reduced, and at last, in most cases, they have been brought down to the capacity of a schoolboy's pony; the excuse being that large fences were attended with danger to the horse. The result, however, instead of producing what was desired, has been that in proportion to the small size of the fences has been the number of broken backs, because weedy thorough-bred horses were entered at these localities, and galloped till they were exhausted, and then, in attempting to get over some small fence beyond their powers in a state of exhaustion, they stuck their hind-legs into the bank, and fell with such force as to break their backs, no longer guarded by the powers of untired muscular fibres. Now, if the fences had been kept bigger no such horses would ever have been entered, or if entered, they would have refused the first fence; and, moreover, the jockeys, *for their own sakes*, would have avoided forcing the pace, because they would have known that a tired horse over a big fence falls upon his rider, and breaks his ribs or his neck. Over a small one, however, the horse goes at it fast enough to land his rider clear of him if he falls, and seldom to do him damage, although frequently breaking his own back. In consequence, then, of all these objections to the sport, and finding that, unlike flat-racing, there are no counterbalancing advantages, the Jockey Club and the higher racing authorities have consistently stood aloof, and from 1850 to 1860 steeplechasing was reduced to a comparatively low ebb, both in point of entries and localities. Liverpool, Epsom, and Worcester still took advantage of their stands to attract an attendance; but Newport Pagnell, St. Albans, and all the

old spots where a good hunting country tempted the real sportsman to participate in the adventurous character of the scene, were deserted. Much as I admire the beauty of the horse when taking a fence or a brook in his stroke, and still more when twenty or thirty of such as Lottery, Gaylad, or Peter Simple, were in the air almost at the same moment, I cannot regret this conclusion: from the very first the control of some superior power, like the Jockey Club, was wanted; and the constant recurrence of fraud, quarrelling, and mistakes detracted so much from the pleasure otherwise to be derived, that it cannot occasion surprise when fashion deserted the sport. Still, however, it mustered nearly as many seats of contest as ever, though of an inferior grade, and it must be classed as one of the sports of the country. Farmers, in many cases, entered their horses with a view to sale, or for the purpose of competition; and if the steeplechase itself did not tend to spoil the hunter, this would be a very laudable end, and a good reason for establishing small local steeplechases confined to farmers' horses; but, unfortunately, the training of the horse and the necessity for practising him in rushing at his fences, or at least in going fast at them, takes away from his value as a hunter, and unfits him for the use of most men, who do not like a horse which cannot be stopped in the face of a gravel-pit or deep roadway. These dangerous spots, however, are constantly occurring in the hunting-field, and to avoid them most men like a horse to go quietly at his fences, by which he also has more command over himself, and can measure his power more exactly; but in the steeplechase everything depends upon pace, and unless a horse not only gets away quick from his fences, but goes a good pace at them, he is speedily beaten. Hence, as I before remarked, they are a bad school for hunters, and are merely objects of sport, which, unfortunately, is mixed up with accompaniments of that low kind as to be opposed to the morals of those who partake in it, in every point of view.

But since the above remarks were written, in 1855, the prospects of steeplechasing have greatly revived under the auspices of two or three gentlemen devoted to the sport. National Hunt and Grand Military chases have been instituted, in which fair natural fences have been adopted, and over which none but good hunters would have much chance. A code of laws has also been passed and made imperative at all steeplechase meetings, so that a great deal of the fraud formerly practised is done away with. Indeed, the sport may now be fairly compared with flat-racing in point of honesty, though it may be alleged that is not giving it a very high character. Good Leicestershire hunters, like Bridegroom and Lord George, have more than once been victorious, but still cast-off race-horses, such as Emblem and Emblematic, too slow for the flat, have, as a rule, won the principal steeplechases, especially over the artificial fences still in vogue at Liverpool, Worcester, Warwick, and other race meetings, where proximity to the stand is the *sine quâ non*. At Market Harborough, Wetherby, and Rugby, however, capital natural countries have been selected for the Grand National and Military meetings, and there can be no doubt that the sport has been more than reinstated in its pristine glory and popularity, and the *furore* for it has, moreover, extended to the Continent, but more especially to France and Germany.

Sect. 2—The Steeplechaser.

General Description.—Lottery, Gaylad, Cheroot, Peter Simple, Discount, Rattrap, Brunette, Chandler, Proceed, Vainhope, Bourton, the General, and Sir Peter Laurie, together with some others of almost equal powers, may fairly be adduced as the types of that particular horse which is suited for steeplechasing. Of full size, yet not leggy—strong, yet not clumsy—high-couraged, yet not intemperate—the steeplechaser should be the perfection of form. Sometimes the best horses of this kind have been quite thorough-bred—as, for instance, Rat-trap and Sir Peter Laurie; but generally there has been a considerable stain in the pedigree, as in Gaylad and Peter Simple. Vainhope is nearly thorough-bred, as also, I believe, are Bourton and the General. Many of those which have appeared in the highest form were of still less aristocratic blood—as, for instance, Dragsman and the shaver Gelding, both of which came out about ten years ago. The former was a coach-horse in appearance, yet he managed to cut down a field of first-rate horses in a style seldom seen, and ran the fastest race on record, over what was called a four-mile course, but which was really a full quarter of a mile short of that distance; the latter was well up to 16st. Few thorough-bred horses, however, have the substance of bone to stand the shocks of the jumping, nor can they often carry the weight which is put upon them over a country. There is a vast difference between carrying 11st. over the flat and carrying the same over thirty or forty

fences; in the former case, wind is of the greatest importance, and with this quality in perfection and a good heart, if the speed is sufficient, the weight can generally be carried; but over a country the same horse is often unable to lift the weight from the ground in his jumps, from a want of absolute power in the back and hind-quarter. Hence a muscular horse is generally indispensable, though there have been some remarkable exceptions—as, for instance, Daddy-long-legs in the years 1842-3, and perhaps that remarkable Irish mare, Brunette, who certainly, from her appearance, never would have been selected as capable of carrying 13st. in the way she did. Lord Lurgan's Fugitive also looked a weed, but was far from weedy in her real powers; nevertheless, in the steeplechase, appearances are, perhaps, a better guide than on the flat. It is easier to go into the saddling enclosure and select a winner of a steeplechase, barring accidents and pulls, and supposing them all to be masters of their trade, than to pick out the winner of a great race—at least such is my experience of these matters; for there is generally a look of power and speed, combined with blood, in the first-rate steeplechaser which indicates his probable success. Although Brunette did not quite look what she was, she appeared moulded in a most perfect form, and was certainly a most wiry-looking animal; yet no one, I think, could have guessed that she was as good as she really was. But Lottery, Gaylad, Peter Simple, and, in fact, the whole of those horses whose names head this paragraph, would take the eye at once. Discount was the most muscular animal I ever saw, and was the perfection of a strong, well-bred horse, with a constitution of iron, and the temper calculated to carry an old gentleman to harriers, if only his understandings had been sound. Description fails when attempting to go into the detail of the various points which make up any particular kind of horse; the only useful mode of arriving at a knowledge of the appearance of the animal is by means of portraiture, and here even many of the steeplechase cracks are imperfectly represented. Lottery had the good fortune to be very well taken, as was Brunette, but some others have been wofully misrepresented. The sketch of the steeplechaser given with this article shows very well the class of horse most suited for the purpose, and gives also the overtaxed condition of the horse in which he fails to accomplish the leap. The object of the artist is to represent the horse jumping on to the bank, as is too often seen, from the pace having been forced, and his powers gone; this is well shown, and the necessity for avoiding pumping a horse before putting him at wide or high places. The smallest steeplechaser which, I believe, ever ran successfully in good company was Mr. Vever's Little Tommy. His height was barely 14½ hands, yet he managed to contest the palm with good horses, and carrying a tolerably high weight. On the other hand, most of our best horses have been 16 hands high, or thereabouts; and for the steeplechase that height may be considered the most advantageous. A little horse cannot so well take his fences in his stride, and has to exert himself more to get over them, and though he is more easily collected, and can generally take off nearer his fence, yet he takes so much out of himself in the effort as to impair his powers. Taking, then, all these points into consideration, I should advise the selection of a horse of good size, with great power, good temper, and as much breeding as possible; but his being a little hot in temper is not so great a disqualification as for riding to hounds. Some of our very best steeplechasers have been unmanageable unless they are allowed to go straight away, as is always the case in this kind of sport, and is so seldom long met with in riding to hounds. With regard to age, few horses have ever won good stakes until they were six or seven years old, partly from an incapability of staying the distance—usually four miles—but chiefly from a want of sufficient practice. Vainhope, however, won his first two races as a four-year-old, and also ran second for two more in that year; but he had been constantly ridden to hounds, and was a very perfect hunter. His sire also was by Defence, giving him the stoutness which no doubt he possessed, and therefore his exceptional case may be accounted for.

Sect. 3.—Mode of Procuring Steeplechasers.

A First-class steeplechase horse is almost as difficult to obtain as a horse fit to win the Derby, and much more so than a good average racehorse. The essentials are more numerous, and though he need not be as fast for a mile or two as the racehorse must be to attain success, yet he must be able to stay a distance of ground, such as four miles under high weights, at a pace nearly, if not quite, tip-top. It is very remarkable that some of the best stayers in the steeplechase have been notorious jades

on the flat, where they never could get beyond half a mile. Lord Coventry's two celebrated mares Emblem and Emblematic are notable instances of the fact, but many more might be adduced. One of the best performances under high weights of any horse over the flat was that of Tranby, in Mr. Osbaldestone's match against time, in which he carried about 11st. four miles in 8 minutes, after having previously run the same distance in a little over that time. This feat, however, has been equalled on some occasions in the steeplechase, considering the stoppage and extra exertion caused by the fences. Dragsman did the 8¾ miles in 9 minutes, at Worcester; and Abd-el-Kader is said to have won the Liverpool steeplechase, in 1854, in 9 minutes and 39 seconds, which, considering the nature of the ground, is a still more wonderful feat: one being all sound turf, with small fences; the other, chiefly arable, with more severe ones. Thus it will be evident, that what is wanted is a racehorse with the addition of power to carry weight, and temper and courage to enable him to learn his trade. Some horses are so ungovernable that the moment they take it into their heads to dislike what they are set to do, they commence kicking or rearing, and no amount of severity will compel them against their will to attempt a fence. If, therefore, horses do not easily and, as it were, naturally take to jumping, it is generally useless to persevere; and this should be taken into consideration in selecting horses for the purpose. Another point of importance is the style of going, which should not be quite the same low daisy-cutting form which suits the smooth turf of our race-courses. Many a horse which is there quite safe, and is in fact liked all the better for his low style of gallop, would inevitably fall in getting over the grips and unequal ground always occurring at Liverpool and elsewhere. In all cases, therefore, the purchaser should make choice of a horse with action suited to his purpose, in addition to power, pace, and temper; and with these requisites a discarded racehorse, of stout blood, and having sound legs, has often turned out a useful speculation on the steeplechase-course. In some instances a breeding-stud has been specially established for this class of horses, but the proportion of colts bred from the strong mares selected, which were fast enough for the purpose, was very disappointing. If thorough-bred mares are used the colts are generally too small, and devoid of power; and if with a considerable stain, the chances are that they are too lumpy and slow. It is only as occasional trump-cards that these animals can be bred; and no science in the world, with all the experience of an octogenarian, will enable a man to breed many such horses in his lifetime. Breeding, therefore, for this sport never has answered, and, I believe, never would, even if its palmy days had continued; but under the present system there is no doubt that little encouragement is afforded; and if a determination is arrived at to enter the arena, horses must be picked out from various sources and purchased. The Irish hunting mares seem capable of breeding useful animals of this class, and some of our best horses have been brought over from that country, got by Ishmael, Ratcatcher, Windfall, &c., out of the country dams. The latter horse seems lately to have been peculiarly lucky in his stock; the roomy and muscular proportions of the descendants of Comus and the stoutness of Beninbrough being well marked in them. No blood, however, has told more than that of Whalebone, as might have been expected from its well-known stoutness. Sir Peter Laurie, Simple Peter, Maurice Daley, Vainhope, Cog.a, Lord George, the General, and many other recent winners, all descended from him or his brother Whisker; or, again, from his sire, Waxy, who is great-grandsire of that very wonderful horse, Chandler, and of Drayton, who got more first-rate steeplechasers than any other stallion of his day, being sire of Standard-Guard, Victim and Bourton. He was by Muley, son of Orville, out of Prima Donna, by Soothsayer, granddam by Waxy, and was not successful on the flat, either in his own case or in that of his stock. On the other hand, the Selim blood, which is generally considered to be rather fast than stout, has been almost equally useful on the steeplechase-course—through Ishmael and Ratcatcher. In fact any first-rate racehorse, of stout blood and *with good shoulders*, seems to have succeeded occasionally in getting good steeplechase horses; but the essential point, which is printed in italics, is still more necessary on this kind of ground than on the flat. This subject, however, will be more fully considered under the general head of breeding horses, in which the various stains are analysed, and their relative value examined for all purposes connected with racing in all its several forms.

Sect. 4.—Teaching the Steeplechaser.

Early Practice over the bar, as well as small fences, &c., is of great use to the

steeplechaser; and without it most horses are a long time before they can keep their legs in a steeplechase. If, therefore, a colt bred for a hunter is supposed to be good enough for this purpose, he should be at once put to jump small obstacles while his breaking is being completed; but there are very few horses which will do more than clear comparatively small places in cold blood, and the stimulus of competition, especially with hounds, must be employed. Water-jumping is particularly disliked by most horses, and it should never be pressed, except with a good and sure leader; a refusal is never desirable, as the horse, finding out his power, is apt to repeat it in spite of the whip and spur. Wherever it is possible, the usual plan of riding young horses with hounds quietly, and by a good breaker, is the mode to be adopted; and generally a whole season must be employed in making them handy enough to commence a drill over the country, at the pace and in the style suitable for steeplechases. In most of our steeplechase-courses there is a water-jump, often of no real difficulty, in consequence of the sloping nature of the landing-side, but still of an apparent width sufficient to deter a horse from attempting it, unless he has been accustomed to water. A country should therefore be selected which is intersected by small brooks; and in fact every variety of fence, from the post-and-rail to the bullfinch, should be encountered at a time when the blood is up from the presence of a large field of horses. The essential requisite is a good rider, who will neither distress the colt nor allow him to refuse what he can easily accomplish; hence, he must be a good judge of condition and pace, for nothing disgusts a young horse more than to ride him at big places when he is tired. It often happens that the colt-breaker is fond of the sport, and is inclined to persevere over a distance and at a pace which old and seasoned horses only are fit to encounter; and to guard against this, the owner of the colt should always be ready to sacrifice his own place in the run, if he has the future success of his colt at heart. If he will not do this, he can scarcely expect the rider of his colt to do so; and the more exciting the run, the more he should be ready to forego it, knowing that the same temptation which makes it difficult for him to resist, will operate in a like manner upon his breaker, if he is not prevented by the presence of his master. In this way I have known many good colts injured, both in temper and in constitution. A hard run with hounds requires much more condition than a race, in order to avoid any ill consequences; and yet the colt is often expected by his breaker to carry him through it, at all events as far as he can raise a gallop. For these reasons, the plan of allowing the breaker to ride colts with hounds is not unattended with objections; but if a steady man can be found who, while he has the power of riding forward, has also the discretion to know when to stop, it is much the best mode of teaching the steeplechaser. A little practice over a dozen fences, two or three times a week, with hounds, pulling up at the end of the first two or three miles, and not going too fast over that distance, is what is wanted; and when that course is pursued the colt leaves off each time with an appetite for more, and becomes fonder every day of the amusement. The kind of feeling which should be encouraged is that displayed when the horse is always keenly looking out for a fence to vault over, and the moment he has the opportunity will indulge his taste, taking the bit in his mouth, and going at his fence as fast as he is allowed. When this state of things is produced in the colt, and he is well practised at every variety of fence at a quiet pace, he may be ridden faster at them, and he will then gradually learn to measure his distance, and to take off so as to avoid over-jumping himself on the one hand, or falling by too slight an effort on the other. Much of this kind of practice may be carried out without hounds, for as soon as the habit of jumping everything as it comes is inculcated by example, the necessity for their presence is no longer felt, and any enclosed land with suitable fences, not too large, will answer the purpose. Two or three horses together will learn even here better than a single horse; and if they are to be had, with as many good riders, a kind of small steeplechase, without racing, may be ridden two or three times a week until the young horse, instead of getting over his fences in the style of a finished hunter, will learn to race at them and jump without the slightest pause, either beforehand or on landing in the next field. The latter point is as necessary as the former; and the rider, if not a professed steeplechaser, should be aware of the necessity, and practise the style accordingly. It is astonishing what a difference exists in this respect between two horses which have been "made" on these different plans: one, a perfect hunter, goes steadily up to his fence, but dwells on each side of it, in order to measure his effort in the first place, and by nature in the

second; the other, a finished steeplechaser, takes all his fences in his stride, and only increases his pace when the size of the next fence requires an extra effort, in which measure of his powers he is of course assisted by his rider. It is for this reason, and because of the fact that few horses are ridden in this way till they are trained for this especial purpose, that so much time is required to make them perfect over a steeplechase-course. A young animal is much more easily taught than an old one, as whenever a style has been formed it is much more difficult to get rid of it than it would have been to teach the opposite mode in an unbroken animal. The want of natural cleverness has much to do with it; but bad riding, and especially a slow style, has still more; and therefore the owner of a horse intended to win a steeplechase, should be very careful in putting a rider upon his future winner. Few men but those accustomed to ride as regular jockeys are calculated to do justice to such a horse, and in every case some "professional" should be engaged for a few lessons, or, at all events, some one who thoroughly understands the business. There are many men of this class, throughout the best hunting countries, who are ready to ride young horses to hounds for a consideration; and at other times they may still more readily be had, because they can ride several horses a day without hounds; but with hounds the riding of one animal is the work of each day. When the lesson is to be given shortly before the steeplechase, and the actual rider is selected, it is better in all cases, if possible, to let him ride his horse two or three times. Few horses go alike on the road, and still fewer across country; in the same way almost every man has a peculiar style of his own; and, consequently, both horse and rider have to become acquainted with each other before they are at home, and often it is not until both are down, and out of the race, that they learn each other's bad qualities. It is far better, therefore, to allow them the opportunity beforehand, and the rider has then a chance of preventing those accidents which can be avoided by skill and care when they are known to be likely to occur. Thus, some horses overjump themselves, and require very quiet riding; others, again, are apt to fall into the opposite extreme, and hit the top rail in timber, or the binders in a thorn fence, so hard as to endanger their footing; these require rousing at their fences, or, as the professionals say, "a deal of riding," especially as they are apt to hang about from one end to the other of the race, in consequence of their dislike to the thing altogether. Yet these last are often the best steeplechasers; the worst being generally those which go off at score, and will jump everything before them a yard too high, till they beat themselves, after which they can scarcely clear a straw. But either may be nursed and made more of by a competent pair of hands than by an awkward "yokel," who is only fit to drive the plough, or to ride the horses to water at the pond.

Sect. 5.—Training the Steeplechaser.

In Training this variety of the race-horse a long preparation is absolutely necessary, and it must be conducted upon principles somewhat different to that of the flat-racer. Much will depend upon the breeding of the animal, whether thoroughbred or half-bred, and whether stout or the reverse.

The Thorough-bred Steeplechaser is trained pretty nearly on the same principles as the flat-racer, as described in the sixth chapter of the last book, but with some alteration, as follows (I am here supposing that he is of stout blood, and that he will take as much work as such an animal ought, but if he is deficient in this respect, the following detailed rules will greatly exceed the mark, and must be modified accordingly):—His sweats should be from four to six miles long, but generally, unless he is very lusty, he will not want much clothing. One suit is almost always enough, and if the neck or shoulders, or any other part, wants a special sweating, clothes may be added to either or all for the express purpose. The general practice is to take a long time in the preparations, and to use a vast deal of walking exercise, with as little sweating-work as will suffice to reduce the superfluous flesh, and to get the wind into good order. Speed must, to a certain extent, be sacrificed to lasting properties; and the walking exercise, therefore, is continued to such an extent as will ensure the latter quality, even though the former is somewhat abated. Short spirts, therefore, are not required; for the horse is seldom extended in the race until quite towards the finish; and even then more depends upon the lasting powers than upon the speed, as compared with what a horse can do when quite fresh. Consequently, all expedients for bringing out extreme speed for short distances are neglected, and the training is conducted so as to develope the general muscular powers, including that of the heart, which is the main agent in what

is called a good wind. Less than three months from a state of good hard keep, such as most horses are in when in a private stable, will scarcely serve to prepare a thorough-bred horse for a four-mile steeplechase; and even with that time in hand the animal ought to be in high health, full of hard flesh, and free from cough, humours, or other signs of disease. His TRAINING should generally commence with a sweat, either clothed or otherwise, according to circumstances, followed by a dose of physic and a few days' rest. After this he may be given at least five or six hours' walking exercise per day, divided into two portions, and including a short canter or hand-gallop every day, or every other day, according as he seems to bear his walking. This may be continued for five or six weeks, with one, two, or three sweats during the time, according to circumstances; after which a second dose of physic, with mashes, &c., will form the division between the FIRST and SECOND PREPARATION, which latter will take about three weeks, and will be occupied by a little more galloping exercise, with an hour less per day of walking; and during the interval, one or two five or six-mile sweats, with or without clothing, but generally not allowing of that reducing expedient. Then another dose of physic, and the THIRD PREPARATION may commence. This will require about three or four weeks, and very few horses indeed are at this time the better for clothed sweats. Supposing it to extend to four weeks, about two sweats will be necessary—namely, on the 10th and 20th, or 21st day, leaving a clear interval of from eight to ten days before running. During the whole time, or at all events during the two last preparations, the horse should once a-week be taken over three or four miles of such a country as he is likely to run over, or at least as near as can be obtained in the neighbourhood. He should, however, never be ridden over such fences as to try his utmost powers, but rather over a number of moderately small ones, so as to exercise those muscles which are particularly used in jumping, and more especially those of the shoulders and arms, which tire in the steeplechase without this practice long before those of the hind-quarter, because these last are equally employed in the ordinary gallop. This fact is well known to experienced trainers of this class of horse, and hence the success of certain parties who have united to their practical powers of riding the knowledge of the treatment of the horse which is required for training purposes. Many a good horse has been sent to a first-rate trainer for the flat, and from a neglect of this precaution has been sacrificed, whereas if his jumping muscles had all been trained as well as those engaged in galloping, he might very probably have been successful. It has been supposed, perhaps, that his training has been of a character to unfit him for the distance, and so sometimes it may; but more often the defeat has arisen from his being thrown out of cross-country work, with the result to which I have here alluded. Most regular trainers are well acquainted with the mode of bringing horses out for all distances over the flat, and therefore they would not neglect to do what is required for the purpose; but a great many are not aware of the necessity for this practice, and hence the unfortunate result which often attends their efforts. It is exactly as if a man were trained for rowing, without putting an oar in his hands—that is, by walking and running alone, which would get his wind and general condition into a high state of fitness; but his arms being untrained, would tire at the end of a very short distance. This is an extreme illustration, it is true, but merely an exaggeration of an evident truth; for there are some muscles about the shoulders which are very slightly used in the gallop, and yet are essential to the recovery from the shock of coming down from a height, as in the ordinary jump of the steeplechaser. These muscles must be trained quite as much as the propellers, and in default of such treatment as I have advised, the horse is almost sure to fail before he is half through his distance, as is so often seen in the steeplechaser. Any of the horses which come out would in all probability get over six times the number of fences without a fall, if they were taken over them at various times, and when in an untired state; but from a failure in the muscular powers of either the hind or fore-quarter, a fall is the consequence. Now, if any one will watch for the cause of the falls which happen so frequently he will find that the vast majority take place on the landing side, with symptoms not of want of power behind, but of a failure in getting away after the effort, which power evidently resides in the fore-quarter. The fore-feet seem to stick into the ground, whether it is sound or deep, and the horse falls over, making very often a somersault, and at other times going down without an effort, as if the shoulders and arms were perfectly paralyzed. Every one who has witnessed many steeplechases must have

observed these facts, or will recall them to mind, on having the attention drawn to them. After the last sweat, a gallop may be given every other day, extending to about the distance to be run over, or a little farther, but without fences, for fear of accidents. Three or four hours a day will now suffice for walking exercise, and on the days intervening between the gallops a very short and quick spirt will serve to freshen the horse's wind, and to quicken his stride for the finish, if he should live to that part of the chase. The final means of bringing the horse to the post do not differ from those given in the sixth chapter.

THE HALF-BRED STEEPLECHASER (so called) is sometimes to all intents and purposes thorough-bred; that is, as far as regards the work he will do, and the general treatment which he requires. Many horses and mares which are not in the Stud-book, from some slight defect in their pedigrees extending back several generations, are really capable of doing as much as a thorough-bred. Thus, for instance, supposing a mare, seven-eights bred in the year 1825, were put to a thorough-bred horse, and her daughter, granddaughter, and great-granddaughter, were successively bred from thorough-bred horses, as has often happened, the resulting produce would be still half-bred, in the language of the turf, although in reality he would only be stained in the proportion of 1 to 128. It is said that these half-breds are inferior, because no animal so bred has ever won a great race over the flat; but it must be remembered that these mares are very seldom put to first-class stallions in succession, although now and then one may be indulged with an expensive leap. Now, if thorough-bred mares are treated in the same way, they will very seldom breed a first-class racehorse, and consequently the argument is at once upset, from a want of paraliel *data* in the two cases. The very near success of Hotspur (*h.-b.*), a few years ago, at Epsom, while unprepared, must also be remembered; and though it is not to be supposed that any amount of training would have placed him first, yet to run second for the Derby is no mean feat for a horse in the state he was in at the time. Now, such half-breds as Vainhope, Cogia, or Tally-ho, generally come within this description, and will often bear as much work and as severe a preparation as a West Australian or a Flying Dutchman. Nevertheless, it is notorious that, as a rule, half-bred horses, on the average, will not take anything like the amount of work without being overmarked, and that they must be very cautiously prepared for fear of this result. The same treatment which will improve the wind, pace, and general condition of the thorough-bred will make the horse of inferior caste stale, slow, and wasted: his muscles, instead of improving in size and power, are soft, flabby, and unstrung; his eye dull and heavy, and his appetite almost gone. With these preliminary remarks, we will next proceed to the consideration of the time required to bring out a really half-bred horse in his best form for a four-mile steeplechase. It has been found by experience, that beyond two months or ten weeks very few of this class of horses will train on; and that all time and trouble in the world bestowed upon them, after that period has been well employed, are so much thrown away. I am now calculating, as before, from the state in which a healthy and sound horse is usually maintained in a private stable, and I believe that it is found that from that starting-point the above-mentioned number of weeks will be about the best average for the purpose. It is also frequently the case that these horses put up fat very fast, and would require such a quantity of fast work without clothing to get it off as would be too much for their powers of endurance; hence, they almost all must have sweating in clothes, and many of them pretty heavily during the winter, which is one reason why their training must not be continued so long as that of the thorough-bred. The following is, I believe, the best average treatment of a good-constitutioned horse of this class; but the varieties are more numerous even than with the pure racehorse, and will take even greater experience and tact to modify the treatment to suit each particular case. Here, more even than with the thorough-bred, is walking exercise the sheet-anchor; but even of this kind less will suffice than with them. Taking nine weeks as the average duration of training, they may be divided into two preparations, as follows:—

THE FIRST PREPARATION of the half-bred will, as usual, be preceded by a dose of physic, after which the horse may be set to four or five hours a-day walking exercise, half in the morning and the remainder in the afternoon, with a two-mile gallop every other day at a steady slow pace. At the end of a week a single slow gallop of three miles may be given, and after ten days the horse may sweat over five or six miles slowly and with plenty of clothes. If he

does not carry flesh, he will of course not require clothes at all; and if only moderately fleshy he will only take a single sweater under his clothing; but, at all events, he must go his distance at a steady slow pace, and must be made to sweat more or less afterwards by clothing in the rubbing-house according to his state. After this sweat he will do nothing but take his usual walking exercise for a couple of days, then a three-mile slow gallop, with a day of walking only, followed by another three-mile gallop; then a rest day as before, followed again by a gallop longer or shorter according to his appearance and progress; and finally, after another day of walking exercise alone, a second sweat, making in all about three weeks. After his second sweat a mash is ordered, to prepare for physic, which is given in the ordinary way, with the succeeding rest, and then this division of the training is completed. I should however observe, that practice over a country, as already advised in page 441, is quite as needful for this class of horses as for those there described, and for precisely the same reasons. It may therefore be given on some of the days on which the three-mile gallops are ordered in their place, and for about the same distance, or thereabouts.

The Second Preparation of the half-bred horse is a thorough test of the ability of the trainer, and it will generally require a vast amount of experience to do justice to a horse of this class in this stage of training. The sweats must still be continued, and may sometimes be slightly increased in pace towards the finish, but with the greatest possible caution. Slow work long continued is the great principle still to be followed out, but the degree in which it may be departed from with advantage cannot possibly be defined. Neither can the amount of galloping exercise be laid down with any certainty, nor the pace at which it can be borne; and all that can be said is, that a sweat every ten days of the full length of five or six miles, with or without clothing, and with three or four-mile gallops on certain of the intervening days is generally the rule. The cross-country practice is also continued up to the last sweat, but not after; and from that time the half-bred horse generally requires considerably lighter work than he has previously taken, so as to bring him out fresh and with less galloping than the thorough-bred on the days intervening between the sweat and the race. The only rule for the amount of work is the appearance, as tested by the hand and eye, and the appetite, which the groom can readily ascertain by the state of the manger. Half-bred horses are soon off their feed if over-done; and, what is worse still, they do not readily recover it. Hence this symptom must be watched with the greatest care and anxiety, and the work forthwith reduced on the slightest indication of its approach. Generally, however, a half-bred horse of good constitution will take two or even three pretty smart four-mile gallops after the sweat, going steadily for the first three miles and a half, and finishing with a tolerably quick pace, but not so as to extend and draw out the horse to his top speed. This in fact should never be done, if it can be helped, with the half-bred horse during the last preparation; and a trial for more than a mile or a mile and a half is not to be thought of. Indeed, private trials for steeplechases are utterly useless, and nothing but a real struggle across a country is of the slightest value as a test; because so much depends upon the effects of the jumps, and also upon the staying powers at high speed, which must really never be called out during the training for fear of the consequences to the constitutional powers of the horse. On the two last days only short gallops of a mile and a half or two miles are to be allowed, but that on the last day but one should be a little brisker than usual, and should finish with a smart brushing gallop of half a mile's duration. The setting, feeding, &c., are all conducted as for the thorough-bred racehorse, except that in most cases a quartern of beans may be gradually added with advantage during the last preparation. In fixing the quantity of these the trainer will be guided by circumstances; but, generally speaking, during the winter-season steeplechasers will bear them with advantage, and more especially half-bred horses, for the short time they are at work. With these remarks I must conclude the subject of training the steeplechaser, which, although it most requires guidance, is least capable of receiving it. This is the case with the training of half-bred horses for all purposes, but more especially for such efforts as are called for in competing with thorough-bred horses over a distance of ground. It is here only in carrying weight and in jumping that the half-bred horse is superior to the thorough-bred; and if the latter is strong and clever enough for these purposes, he will, in nine cases out of ten, beat the former at even weights, especially if these are not higher than eleven or twelve stone. Hence it is that thorough-bred

horses, or horses with a very slight stain, have been so generally introduced, and that the old-fashioned and really half-bred horse is quite neglected, if his rival can anyhow be obtained.

Sect. 6.—Steeplechase Riders.

Steeplechase Riders form a class quite separate and distinct from the jockeys of the flat race. They are very numerous, as shown by the published list in Wright's Book of Steeplechasing for 1854, which gives the names of 110 in the United Kingdom. Their weights vary from eleven stone down to eight stone, and their fees are from 5*l.* upwards. The regulations of the steeplechase are now as strict as those of the flat race-course.

Sect. 7.—Laws of Steeplechases.

1. The rules concerning horse-racing in general, as published in the Racing Calendar, apply to all steeplechases, with the exception of Rule 43, and of some other rules that are only applicable to flat racing; and also with the following exceptions and additions:—

2. The decision of the Stewards, or whomsoever they may appoint, is final in everything connected with *Steeplechases*, and there is no appeal whatever to a Court of Law.

3. A walk over shall in no case be deemed necessary, either after a dead heat or otherwise. It shall be sufficient if a horse be weighed for, mounted, and proceed to the starting-post, when, if no competitor appear in due time, he shall be considered the winner of the race. Such horse shall be liable to carry extra weight as a winner.

4. The term "winning horse," in reference to those liable to carry extra weight, or those to be excluded from any race, shall apply only to winners of steeplechases of 20*l.* or upwards not including the winner's stake, or of some prize of equal value, and not to the winner of hurdle races, flat races, or matches of any kind.

5. A maiden horse or mare is considered one that has never won a "steeplechase" of the value of 20*l.* or upwards, not including the winner's stake; and a horse that has never started, is one that has never started for a "steeplechase" of the value of 20*l.* or upwards, not including the winner's stake.

6. Any rider in a steeplechase where the ground is not flagged out going upwards of one hundred yards on any high road, lane, or public thoroughfare, will disqualify his horse from winning, although he should come in first.

7. Any rider in a steeplechase where the ground is not flagged out, opening any gate or wicket, or passing through any gateway or common passage from one enclosure to another, will disqualify his horse from winning, although he should come in first.

8. Any horse getting away from his rider may be remounted in any part of the same field or enclosure in which the occurrence took place; but should such horse not be caught until he shall have entered another field, then he shall be ridden or brought back to the one in which he parted from his rider. Any jockey so losing his horse may be assisted in catching him and remounting him without risk of disqualification; and in the event of a rider being disabled, his horse may be ridden home by any person of sufficient weight; provided he be qualified according to the conditions of the race. No penalty shall be exacted for carrying overweight in this instance.

9. Should the weather or ground be in a doubtful state for running, it shall be left entirely to the Stewards, who may order the chase to be postponed for any time whatever, according to their discretion; and all nominations, subscriptions, and bets play or pay, shall stand good, the same as if the chase had taken place on the day originally fixed.

10. In nominating a horse, gelding, or mare the first time for a steeplechase, its full pedigree must be given, if known, otherwise it shall be sufficient to state his age, colour, and the name in which it has and is hereafter to run, together with such description as will distinguish the animal from any other running in a similar name, either in flat races, hurdle races, or steeplechases.

11. Should the name of any horse be changed after having been once entered in either a flat race, hurdle race, or steeplechase, it shall be necessary in all subsequent entries to state his original name, as well as any other names under which he may previously have been entered.

12. Every person who shall ride for a steeplechase shall be weighed immediately after the same, and shall be allowed four lb. above the weight specified for his horse to carry (provided his weight be not increased by immersion in mud or water), and no more, unless the weight he actually rode be declared as the weight he intended to ride; and if any horse shall carry more than four lb. above his weight, without a declaration having been made by the jockey or the

owner of the horse, or by some one on his behalf, to the Steward or Clerk of the Course, or to the person appointed to weigh the jockeys before starting, then such horse shall not be considered the winner of the race, even though he should come in first, but shall be placed as the last horse in the race, and his owner shall pay the stake as for a beaten horse; and whether the horse comes in first or not, the jockey shall be fined 5*l.* for his neglect, and shall not be allowed to ride in a public race until the said fine be paid.

The person appointed by the Stewards to weigh the jockeys shall, immediately after each day's racing, report to the Clerk of the Course how much each horse carried, where he carried more than 4lb. above the specified weight; and the Clerk of the Course is, as soon after as may be, to communicate such report to the Stewards, or one of them; and the weight each horse actually carried, if more than 4lb. above his weight, shall be published in the first list printed after the race.

13. In all handicaps with twenty subscribers, the lowest weight shall be 10st., and when the highest weight accepting is under 12st. 7lb., it shall be raised to that weight, and the others in proportion.

14. A list of unpaid forfeits, with the name of the subscriber to the stake, and the name or description of the horse, with the name or sufficient description of the stake, and the amount of the forfeit, shall be advertised in the Sheet Racing Calendar after every steeplechase season.

15. The Stewards shall have power to disqualify any horse from being declared the winner of a steeplechase, although he should come in first, if it can be clearly proved to their satisfaction that the jockey, by any deliberate foul riding, intended to knock down any horse, or in any determined way jeopardize his chance of success in the race. Any jockey who shall be found guilty of foul riding, and sentenced to either fine or suspension from riding, will not be allowed to ride at any meeting, until the Stewards who have passed the sentence shall give him a certificate either to say that the fine is paid, or that they consider the suspension of sufficient duration. In no case shall the fine exceed the sum of 25*l.*, and suspension from riding for life shall always be the punishment for preventing a horse from winning.

16. If any flag, post, or boundary mark be placed in the course—no matter by whose order—after the riders have been shown over the ground, or had the line of country pointed out and explained to them, it shall not be considered binding or of any effect unless such alteration or addition shall have been particularly named, previous to starting, to all the jockeys about to ride in the race, by one of the Stewards, Clerk of the Course, or by their representatives.

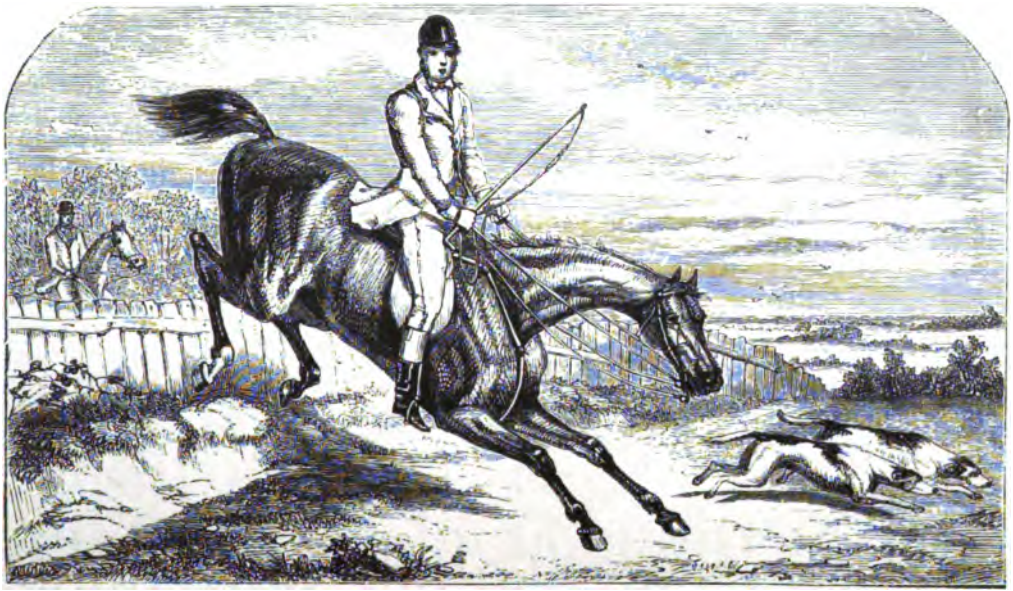
17. If a horse refuse any fence in a steeplechase, and it can be proved to the satisfaction of the Stewards that he has been led over a fence by any of the bystanders, or has been given a lead over one by any horseman not riding in the race, the horse shall be disqualified from winning, although he should come in first.

With the exception of certain military and hunt Steeplechases, of which latter the Grand National in England, and the Punchestown in Ireland are the most prominent, all our steeplechases are now run at bastard meetings, partly composed of flat races, and partly of steeplechases. The latter then generally commence and finish near the Grand Stand, and as much as possible of the course is within sight of those who pay for admittance. The proceedings in either case are under the control of stewards, &c.; but when the meeting is held over a natural country, they are seldom managed in the same regular way as on the flat. The riders are always shown the ground by a person appointed by the committee or stewards, and it is customary for all of the riders to perambulate it on the morning of the race after the flags are up. This prevents any mistake, though, in spite of the precaution, such things do occur; and no wonder, when the intricate nature of some courses is taken into consideration. The weighing, starting, &c., are all conducted on the same principles as on the flat, but where the accommodation is improvised it is often done in a very rude and hasty manner.

THE COURSE IS MARKED OUT by flags, between two of which the horses must all go at certain points, so that however winding the course, the riders may always find the two flags to go between. Sometimes one flag only is set up, which the riders are ordered to leave on the right or left; but this is always subject to mistakes, as these gentlemen are not like recruits in the awkward squads, favoured with a hay-band on the one leg, in order to distinguish the right from the left, and, consequently, they are not always able to remember at the moment which way to turn, and some, taking the wrong direction, are placed in a position which they can never recover. For this

reason, then, I think the two flags ought always to be fixed. The fences vary much in different localities, both in number and in strength. At Liverpool they are still tolerably severe, but not what they used to be even there. At Worcester, Epsom, Leamington, and in fact most of the places where the race-course is the site of the *réunion*, the fences are small, and many of them artificial, being made of thorns and stakes, or sometimes only of hurdles dressed with furze. The ground chosen lately for the Grand National hunt and military steeplechase has generally included some fair hunting fences and brooks of twelve or fourteen feet clear water, which is quite enough to test the merit of any hunter when extended, as he must be, in a race with a strong field against him. The number of fences altogether, including brooks, natural or artificial, will average about 32 in a four-mile steeplechase, and generally about 15 in one of two miles; the run-in being equally long in both cases.

THE STEEPLECHASE itself is certainly a beautiful sight, and if unattended by the numerous evils to which it is exposed, it might well challenge the admiration of all those who delight in that wonderfully graceful animal, the horse. To see 20 or 30 of those creatures start across country, taking everything in their stride, and charging a brook or a bullfinch at the rate of 20 miles an hour, is a glorious sight indeed; and, I confess, it is one which has afforded me much gratification on many occasions. With regard to cruelty, I cannot see the objection on that score which many do; and, undoubtedly, in comparison with any of the sports included in the first part of this Manual, it is a most humane amusement. It should be recollected that the death of some one, or often of hundreds of animals is the grand object of shooting, hunting, coursing, and fishing; then, with what consistency can an advocate of any of those sports throw stones at the steeplechaser because he occasionally, and by accident, does that which in the other case is the object of the sport? No one would willingly break a horse's back, for his own sake, and therefore, though I should by all means avoid these accidents, I can see no cruelty in their occurrence; nor do I think that they ought to prevent the continuance of the amusement as a national sport, if it can be shown to be either useful, or even if it is not prejudicial; but as I believe, in every point of view, it is injurious to the people and to the improvement of the horse, there can be no question in my mind as to the propriety of its discontinuance, especially if its laws and practices are not remodelled.



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PART II.

HORSE-RACING.

BOOK III.—RIDING TO HOUNDS.

CHAP. I.
THE ESSENTIALS.

SECT. 1.—GENERAL REMARKS.

RIDING TO HOUNDS as I have before observed, is often confounded with hunting; and in the present day it well may be, since there are very few who indulge in the latter, while almost every man who hunts may be said to ride to hounds. The whole affair is a race; first between the hounds themselves; and secondly, among the field, who vie with one another in a way which often spoils the sport, from the over-riding of the scent in the ardour of the contest. Riding to hounds is carried on in such a systematic way that it must be investigated in the same spirit; and when it is considered that probably 20,000 hunters are kept in Great Britain and Ireland for this purpose alone, it may well encourage one to go fully into the subject, since its interest must be proportionate to the extent of the circle of those who indulge in it. The only requisite for this amusement, over and above the hounds, which have been fully entered upon in the chapters on Hunting, is the hunter, which may be either the thoroughbred or the ordinary half-bred hunter, or the weight-carrying hunter, each of which will form a separate subject of consideration.

SECT. 2.—THE HUNTER.

THE THOROUGH-BRED HUNTER comes first under examination, as being the most valuable, according to the Hudibrastic definition. No doubt hunters of pure blood, if perfect and up to great weight, are very scarce; and being from this cause very fashionable, they are only to be obtained by paying high sums for them. But the full-bred hunter requires not only this purity of blood, the effect of which is to give him good wind and bottom, but he must also have liberty of action and general cleverness, in order to enable him to perform the various feats which a clever hunter should be capable of. There is no difficulty in procuring horses of this class high enough from the ground; and many are seen measuring 17 hands high, or even more; the real difficulty is experienced in procuring them near enough to the ground, and with "as little daylight as possible" under them. This sporting term is very expressive, marking the conformation which is most rare, and yet most valuable in this class of horses; a half-bred hunter may easily be too thick and stumpy, but it is seldom that this is the case with the thorough-bred horse. The same applies to the racehorse, which, as I have before remarked, may be too bulky and round in his ribs, so as to carry too much weight for his legs, and to be slower than he is required to be for his particular purpose; but the thorough-bred hunter (if made in proportion) can scarcely be too strong and thick; remembering always that the legs must be bony and strong enough to carry this weight and the correspondingly heavy rider. It will be allowed by all that no horse can suit the purposes we are now considering better than one in which all the following essentials are combined—viz., first, pure blood; secondly, a strong, low, muscular, and bony frame; thirdly, quickness and cleverness; and fourthly, a tractable temper, in order that all the first three qualities may be applicable to the purposes of the owner. If, therefore, a thorough-bred horse can be obtained with all these requisites, and also sound in constitution and in limb, he is undoubtedly a prize worth having, and a large sum may well be invested in his purchase by any person who can afford the outlay. Who would not ride such horses as Rat-trap, the Switcher, Sir Peter Laurie, &c., if they could get them well broken and steady with hounds? All these here mentioned, and many others well

known on the steeplechase course and in the hunting-field are capable of carrying 15st. with any hounds. The strongest hunter I have ever seen of this class is one which was expressly bred to win the Derby, and was reared and trained for that purpose. He is fully 17 hands high, yet on short legs, with the bone and substance of a dray-horse, or nearly so. Unfortunately he turned out a "whistler," and he was also too slow for racing; but he is now a first-rate hunter, capable of carrying 17st., and actually going to hounds very forward under that weight. He is by Harkaway, who from his Eclipse blood, and the large infusion which he has of that of Herod, is admirably calculated to get weight-carrying hunters. Such horses, however, are very rare; and, as I said before, are only to be obtained for long prices. It is no wonder, therefore, that fault should be found with our cavalry horses, as being incapable of standing fatigue and hardship under 18st., when it is known that our best hunters are scarcely capable of carrying a stone less weight. The sum until lately paid for cavalry troop-horses has only been 24*l.*, whilst to horse a regiment in perfection at least 100*l.* a-head must be forthcoming. Pure-bred horses, therefore, are out of the question for that purpose, and must still be confined to the race-course and to the stables of the wealthy, when required to carry heavy weights. A hunter up to 11st. or even 12st., may easily be obtained thorough-bred, and numbers of such, too slow for racing, are sold every year. Unfortunately, however, the bulk of them are injured either in legs, feet, temper, or action, by the training they have endured; and for this reason scarcely 10 per cent. are really fit for riding to hounds. No one likes to ride a horse which will bite or kick, or rear or plunge, or pull to the very verge of running away; and yet these qualities are so constantly met with as the result of training, that the purchaser always looks out for some one or more of them in every horse which has been in a trainer's hands. Besides these faults of temper, there is another depending upon the peculiar education for the turf—viz., the daisy-cutting style of gallop, and the want of "setting on their haunches," which most trained race-horses exhibit. A hunter should be almost able to walk on his hind-legs alone, and for this purpose he should, in his breaking, be pulled very much more upon his hind-legs than is the case with the racer. I do not mean that this should be to the same extent as for cavalry purposes, but that it should be sufficient to enable the hunter to balance himself upon his hind-legs in getting to his fence when anything is to be done in a quiet and creeping style, such as every perfect hunter ought to be accomplished in. Nothing is more useless than a weedy or bad-tempered hunter, whether thorough-bred or not; and a half-bred horse of good substance and temper is always preferable to one of pure blood inferior in these particulars. There is no medium in him, and he is either worth his weight in silver, or else he is not worth his corn. The feet of the thorough-bred horse are generally too small for going well in deep ground, which requires a foot of some size to keep it from sinking into the soft and yielding soil. This is a point of some importance, and I believe it will be found that most horses "good in dirt" have moderately large feet.

THE ORDINARY HUNTER, of impure blood, comprehends every variety embraced between the one above described and the heavy machiner; but I am now considering those only which are capable of carrying 14 st. to any hounds. His best qualities are, his tractability, cleverness, and hardy constitution; all of which may be found in this class to greater perfection than in the one I have just been considering; and, as a matter of course, every individual is expected to combine all these in a tolerable state of development. There can be little doubt that hunters of this breed, as a class, excel in jumping all kinds of fences, which they get over either standing or flying, as their education has taught them; or, in thoroughly made hunters, at the will of their riders. These horses will cover an enormous width, as well as height; and it is said that a fence at St. Alban's, seven feet high, was cleared without touching by Moonraker, in 1832. The widths of thirty-three and thirty-four feet have been cleared respectively, by Chandler and Vainhope; but they can scarcely be classed with half-bred hunters; both however being sufficiently stained to write *h.-b.* to their names. A really half-bred of my own once cleared twenty-nine feet, as measured by myself, and while leading at the end of three miles in a steeplechase. There can be no question that in jumping heights the thorough-bred is beaten by his impure competitor; but in width he will bear the palm, as might be expected, from his greater speed and length of stride. Twenty feet are often compassed in each stride of the extended gallop of the racehorse, and he has consequently only to increase this space one-half in order to cover a width of thirty feet; whilst an addi-

tion of three-quarters would make a leap exceeding Vainhope's by one foot. Thus the advantages, even in point of jumping, are more evenly balanced than is generally supposed; and if the thorough-bred horse is broken expressly for this purpose, and set upon his haunches, he will do all that a horse can do; but as he is generally bitted on a very different plan, and is also made hot and vicious by the high feeding and general management of the training-stable, he is practically in these points inferior; and the half-bred hunter may be said, without fear of contradiction, to be A 1 in all the above particulars, taking him on the average—good, bad, and indifferent, being classed together. Every year, however, our hunters are better bred, and more capable of competing in lasting qualities and pace with their more aristocratic companions; and very shortly we may expect to see the thorough-bred horse generally beaten in the hunting-field by horses to all practical intents as highly bred, though possessing a stain many generations back, but expressly reared and broken for hunting alone. At present such is not the case, because all our breeders endeavour to combine the two objects by selecting blood which will possibly turn out a Derby horse out of a large number, and thus preferring the chance of one large prize, instead of endeavouring to obtain a number of small prizes. This subject, however, will be more advantageously considered under the general head of "Breeding," which concludes the second part of this Manual. With regard to the best conformation for this kind of hunter, it must depend very much upon the weight he is intended to carry. If this is under 14st., the hunter may resemble as closely as possible the thorough-bred horse, being in fact in almost all cases at least seven-eighths of his blood. Lightness of head and neck is not quite of as much importance as on the turf, but still it is very desirable; a very neat small head is however to be passed by in favour of a bolder and fuller head, with great width and general roominess of skull, so as to contain a very full volume of brain. This is necessary for the sake of giving that high intelligence which the hunter requires. He should never be a fool, or he will bemire his rider; and the more knowledge he gains by experience the better he will perform. There are some horses which never make a mistake, unless they are cruelly over-ridden either in point of distance, or size of fences; and yet they may not have more action than others which are constantly getting themselves and their riders into trouble. I recollect seeing a black mare in Worcestershire, four years old, go through a long run without a single mistake, although it was her first appearance with hounds; in fact, she had only just been broken in; but she had the most intelligent countenance in the world, with a full-sized skull, and an eye which could almost speak. She was sold for 150*l.*, to go into Leicestershire, though scarcely up to 12st. Now, it may be said that she was a "natural hunter;" and so she was; but why? because she was clever enough to understand at once what was to be done, and how to do it. All horses with good brains and tempers, if also accompanied by good action and sufficient power, make good hunters at once; whilst dull, stupid horses, or rampant fiery ones, which will not look where they are going, are only made into hunters by the long-continued efforts of rough-riders, and the imminent risk of life and limb.

THE WEIGHT-CARRYING HUNTER is very rarely of pure Eastern blood—that is to say, that the thorough-bred horse is seldom capable of carrying more than 14 st. across-country. Some rare exceptions occur, and I have instanced one in a previous paragraph. It is not that a thorough-bred horse will not beat a slow, thick-made, weight-carrying hunter across country, each carrying 16 st.; for it is well known that he will, if he has only strength to lift it; but in practice it is found that his joints and sinews are too small to stand the strains incidental to the carrying of this weight. An extraordinary instance of the disparity between horses of these two classes was exhibited some years ago, in which a thorough-bred horse, without any pretension to racing powers, and a good, useful, and well-bred, weight-carrying hunter were matched to run four miles, each under 13st. 7lb.—Oliver and Parker up. The country chosen was not very severe, but quite enough so to test the qualities of the horses. The result was, that the half-bred could never make the other gallop; and in spite of *dropping his weights, and going back to pick them up* some three or four hundred yards, Oliver only came in a short distance behind the stronger, but slower, horse. The whole scene was an absurdity, if nothing worse; but it plainly exhibited the superior qualities of the thorough-bred horse for a single fly across a country under weight. But if the same two horses were to be ridden twice a week to hounds for a few months by two 14st. men, the one would be just as fresh

at the end as at the beginning, whilst the other would be lame and knocked to pieces, if he had not been obliged to stop long before. If, therefore, the man of this weight wishes to be mounted on thoroughbreds, he must, at least, double the number of his stud, as he will find that they will be much more frequently lame than the larger-limbed half-bred horse. But that they will do more in the single day is undoubted; and though in fast countries a second horse is wanted even for the light weights, yet he is not wanted nearly so much when a thorough-bred hunter is employed, as in the case of a commoner horse. The outlay for 16st. horses is in any case great; for, of course, it is understood that they must have pace, and it is almost as difficult to meet with a fast low-bred horse as with a strong thorough-bred one. Few really half-bred horses, framed like a thorough-bred, can carry this weight; and unless of pure blood, or very nearly so, they must be of a frame which is generally too stout and thick for great speed. The sketch accompanying this article exhibits the perfection of form in the horse of this class; he is what the dealers call "a little big un'," that is to say, a strong low horse, appearing less than he really is, because his proportions are so good as to deceive the eye. It is always a good sign when a horse, or any other animal, measures more than he looks; it is invariably caused by such an exact proportion of parts to one another as leaves no point for the eye to dwell upon. When such a horse is seen with a head, neck, and shoulders like this sketch, he may be considered a rarity; and if he can go a good pace, and knows his business as a hunter, less than 200 guineas ought not to buy him; more than that sum I consider a fancy-price, and only put on to please those who are not contented unless they use an article obtained at a cost beyond the reach of ordinary men. The neat head and neck are chiefly to be desired for the sake of their beauty, but the sloping, yet powerful shoulders, the strong and wide hips, with a back like a feather-bed, are essential to the weight-carrier. Such horses ought also to have their thighs and gaskins very strongly developed, so that on raising their tails these parts are seen to touch one another below the level of the stifle-joint, and in fact more than half-way down from the root of the tail to the hocks. The muscles of the thighs on the outside ought also to extend considerably beyond the level of the hips, unless these are very ragged, when this will seldom be the case. Hips of this description are not pleasing to the eye, until by experience their utility is discovered; but the horseman of long standing generally comes to the conclusion that "handsome is that handsome does," and in the hunting field the truth of this proverb is generally recognised. In Hyde Park much is sacrificed to appearances, which are made the first consideration; not because the frequenters of that arena are bad judges, for the reverse is the case, but because there is no test of quality except of action, which is exhibited there in full perfection. But in the hunting field competition is the order of the day, and the horse that can beat all his competitors is the most valued, even though as plain as a cab-horse. Nevertheless, if he is "a good un' to go," he is not the less prized because he is *not* a "rum un' to look at;" and if beauty and goodness can be combined so much the better; and so much the dearer is the horse combining them. Large, bony, and strong hocks must be possessed by these horses, both for giving power and standing work; curbs, spavins, thorough-pins, must be carefully avoided, especially the first, which in carrying weight are almost sure to give way again, even if they have been once cured. The fetlock-joints should be strong, and the bones short but not stumpy; this applies to both fore and hind-legs. The knees must be especially looked to, as they are very apt to give way under weight; they should be wide and large, with the bony point behind well developed, and the leg set on straight with the arm, or, if anything, with the knee slightly bent forward; nothing is worse than the calf-knee in this class of horses, because in the drop from the leap the strain on the ligaments is not enough assisted by the muscles, which, by the extension of the limb beyond the straight line, lose a large proportion of their power. Practically, therefore (as well as theoretically), it is found that these knees are unsuited to the hunting field, and should be avoided most carefully for carrying weight, though for less than 12st. they may often suffice. On the other hand, some of the best hunters in the world have the knee forward, although this particular formation is considered objectionable by some; as, for instance, by Cecil, in his additions to "The Horse." He there adduces the descendants of Penelope as likely to be bad hunters, from their inheriting from her this formation of the leg, yet it is notorious that a very large proportion of our best hunters and steeplechasers are descended from her, either through Whisker or Whalebone, her sons. The Colonel, son of Whisker, and

therefore, her grandson, though not remarkable for getting good racehorses, yet is the sire of a vast number of first-class hunters, in many of which this peculiarity exists, and, I believe, to their great advantage. Nimrod, also, a son of Whalebone, got a great number of extraordinary weight-carrying hunters, in almost all of whom this peculiar formation of the knee was very evident; yet they all stood their work well, and I never saw a hunter by Nimrod with really worn-out fore-legs, though often much over at the knee. But they all have good tendons and suspensory ligaments, and these are the really important parts upon which the wear and tear of the hunter's legs actually depend, when united with joints of good size, and furnished with strong lateral ligaments. The same applies to the stock of Sir Hercules, Defence, Safeguard, Combat, and the Saddler, all descended from her, though not all exhibiting this peculiarity. On the road it sometimes leads to a trembling of the knee, as the result of hard battering, and is, therefore, perhaps objectionable for that kind of work; but for racing, whether on the flat, in the steeplechase, or to hounds, it is rather a good point than otherwise in my opinion, and in that of every good judge with whom I am acquainted. I have made these remarks, not in disparagement of Cecil's labours, but because in such an important feature as this, which may easily mislead the young rider of 16st. weight, it is right that the truth should be stated if it can be arrived at; and this I am persuaded will be found on the side I am now espousing, with regard to the formation of the fore-leg. The feet of the weight-carrying hunter ought to be tolerably large, but not flat-soled, which latter formation will make him unfit for going over hard ground, just as a small contracted foot allows him to sink into "dirt," and prevents his being able to carry his rider through it. When all these parts are met with in a horse of good temper, that will not fret himself with hounds, and has a good mouth, he is that rare animal—"a perfect hunter up to 16st." Beyond this weight a horse suited to it must be a dray-horse in form; and though he may carry his rider to hounds, yet it must of necessity be "*longo intervallo*." No horse that ever ran can do more, if hounds are going a good pace over a grass country. It is wonderful what some men of 18st. will do with hounds, yet it is only by a knowledge of country and good luck that it is done, and not by fair straightforward riding. Occasionally a cart-horse in make, but with tolerably clean legs, is met with capable of going a fair pace, and clever enough to get over his fences by creeping or jumping on and off, &c.; and such a horse will carry even 20st. to hounds; indeed, I remember a mare which, to my knowledge, carried a man who rode 20st. 7lbs. over a brook at least 14 feet from bank to bank, and in the end of a run of six or seven miles, but, as may be supposed, not a very fast one. She was well bred, but very strong and carty; and she could go a wonderful pace for her shape, and considering the weight she carried. This mare bred a succession of colts, all of which fetched high prices.

Sect. 3.—Saddlery.

The Saddle necessary for riding to hounds should be of the very best quality, inasmuch as it is severely tested in the numerous adventures by flood and field to which it is subjected. A bad saddle is at once spoiled by an immersion in a brook, while a good one comes out none the worse. The horse's back also has to bear the weight of his rider often from eight in the morning to six at night; and if the saddle does not fit, or is badly made, the result is a sore back. In all cases this article should be large and roomy; and nothing is gained by the heavy man ordering a 10lb. saddle, in the hope of reducing his weight 4lb. On the contrary, his horse is the sufferer by this fancied advantage, because the weight is not distributed over a sufficient surface, and consequently cuts his skin, and tires those muscles upon which it rests. No saddle should be cramped in size if it is intended to be long on the horse's back, and hence the hunting-saddle, of all others, should not be shorn of its fair proportions. That intended for the steeplechase may well be reduced, even to 7lb., because it is not long on; but here, as the reverse is the case, the light one is quite inapplicable. It is true that a first-rate saddler will turn out a wonderfully useful 10lb. saddle for a 12st. man; but for a man of 16 or 18st. it is too small, and the tree itself too weak to support the great weight it has to carry without giving way when dropping from a height. Whenever I have known the attempt made the result has been a sore back; and I am persuaded that the heavy man must have a good roomy saddle of 14lb. if the comfort of his horse is to be considered; and that with such an article he will be better carried throughout a season than with the most wonderfully light one which was ever turned out of a London saddler's shop. Numberless inventions have been brought out at various times for the

prevention of accidents caused by dragging the foot in the stirrup, but these are now all superseded by the introduction of the SPRING-BAR to which the stirrup-leather is attached, and which easily allows this part of the saddle, with the foot in the stirrup, to be set at liberty the moment the rider is hung by it. If, however, these spring-bars are neglected and suffered to get rusty, they refuse to act when wanted, and the result is often fatal to the rider. The good groom always removes the stirrup-leathers after hunting, and in so doing, for his own sake, keeps the bars well oiled. A PLAIN JOINTED STIRRUP was much used twenty years ago, and is still more effectual, because the foot cannot possibly be retained in it; but such reliance is now placed on the spring-bars that all other expedients are neglected as supererogatory. THE GIRTHS should be strong, and not worn too long, as they are apt to break, and cause a severe accident. The rider generally girths his horse up tightly just before the hounds are thrown into covert, and if he is immediately excited by "a find," he sometimes bursts them by the long inspiration which he generally makes at that time.

IN BRIDLES, again, there is a great necessity for good workmanship and materials, not only in the leather but in the bits, which sometimes have been known to break, to the imminent danger of the rider of a pulling-horse. There is a great difference of opinion among hunting men as to the relative value of the SNAFFLE and the DOUBLE-BRIDLE, consisting of the snaffle and curb together in the mouth, or of a combination of the two in one bit, as seen in the Pelham, the Hanoverian Pelham, &c. &c. It is contended, on the one hand, that a horse never requires a curb at his fences, and that the mere presence of one in his mouth makes him go badly at them; but this latter assertion is, I think, overdrawn, and though there can be no doubt that a strong man, with light hands, on the average of horses, will go well with a snaffle, yet when his horse gets tired and wants collecting, as in deep ground will often happen, he would generally be glad of the surfaces of his curb. Some men, however, are so strong as to be able to do this with the snaffle; but few have the power necessary; and many are, by the time their horses want assistance, themselves too exhausted to afford assistance, except with a more powerful bit than the one which they have used with comfort when quite fresh. For those who ride with a loose rein the snaffle is quite sufficient, because they never use it except to guide the horse, and as it lies idle when going straight it does not make the mouth dull, and will fully answer the purpose to which it is applied, without the extra weight and annoyance of the curb. As far as my own experience goes, I have never yet ridden a snaffle-bridled horse comfortably *through a run*, though I have had one or two which were very pleasant for a few miles, but the time has always come when I wanted to collect them after being pumped out, or when it was desirable to stop them in a short compass to avoid accidents. On one occasion I was nearly meeting with an accident from riding a young horse with a snaffle, which always made me careful of such a thing again. We had found a fox, and taken him over a very steep hill, in which I, being a light-weight, had got up very quickly, but not without ruffling the temper of my horse, a young but clever hunter. On the top of the hill we were detained some few minutes, from the hounds checking in a small covert on the side, and we were uncertain which way to go; but no sooner did they begin to take such a line as to induce me to turn his head towards the brow, than he started off with me at a pace which would have carried us both very rapidly into the next world; and I only saved the danger by riding him round and round the small table-land at the top until I could master him, and go tolerably quietly down. Yet his mouth was so tender that a snaffle in the ordinary way could scarcely be borne; and even when going his three-quarter pace he would not pull an ounce; but he was so excited by the struggle up-hill, and so refreshed by the breeze on the top, that the fresh start took away all control over his feelings, and the bit was of no use at all. From that day I have never ridden a hunter in a plain snaffle, nor would I ever do it again, with a hill within reach. There is generally scope enough on a flat surface, but even there it sometimes happens that a gravel-pit, or a drop of some kind is caught sight of just in time to avoid it, if the horse is suddenly checked; and it is in such cases that a sharper control is required than is afforded by the bit *in common use*, whatever that may be. The curb should be seldom used, but the less frequently it is employed the more usefully it acts when really wanted. Hence, my verdict, as may be gathered from the preceding observations, is in favour of the double-bridle, consisting of the snaffle and curb. The PLAIN PELHAM is a useful hunting-bit for light-mouthed horses; but it does not

sit prettily in the mouth, and shows off a head badly; on large heads it is peculiarly unsightly, and more especially when the jaw is coarse. The curb-rein of this bit does not act with the same power as that of the ordinary curb with a port on the mouthpiece, but quite as much so as the straight one. The HANOVERIAN PELHAM is a very useful and powerful bit for hard-mouthed horses, and makes a very efficient hunting-bit for such animals. With decided pullers nothing acts so well as the BUCEPHALUS NOSEBAND, which keeps the mouth shut whilst it may also be made to compress the nostrils, and thus stop the horse for want of wind. Its chief use, however, is in keeping the mouth shut, and thus enabling the port of the mouthpiece to act against the palate, which it cannot do in an open mouth. It is a very simple and ingenious invention, and I have ridden tremendous pullers with it in comparative comfort. The GAG SNAFFLE is also a useful adjunct with pullers that get their heads down; it may either be employed without an ordinary snaffle, and with the addition of the curb-bit and rein or with the former instead of the latter added to it. There is this advantage attending its use, that if the horse does not pull it is not more severe than a common snaffle; but if he does, it acts with double power, owing to the pulley-like attachment of the rein, and to its drawing against the angle of the mouth, in a situation rather above the usual seat of the bit. In every way, therefore, it acts well with a boring horse, and may often be employed in the hunting-field with advantage. The above are all the varieties of bridles which may be useful, and I may here enumerate them as follows, viz. — first, the snaffle, plain or twisted, large or small, usually called the single-reined bridle; secondly, the common double-reined bridle, consisting of a snaffle or either of the above kinds, with a curb of varying power, which resides in the cheek and mouthpiece, the comparative length of cheek and the height of the port being the indices of this quality; thirdly, the common Pelham, combining the above two in one bit of ordinary power; fourthly, the Hanoverian Pelham, on somewhat the same principle, but much more powerful from having a high port and longer cheeks; and fifthly, the gag-snaffle, introduced into the mouth, either with or without the aid of a curb or common snaffle, and chiefly useful in horses which get their heads down too low in their gallops, or obstinate kickers, to keep their heads up.

THE BREAST-PLATE is intended to prevent that awkward accident, which I have many times seen occur from the want of it —namely, the slipping back of the saddle in going up a steep hill, especially towards the end of a long day. The girths which were tight enough in the morning have then become slack, and the saddle slips back, sometimes completely over the tail, the remedy being that which "Johnny Gilpins" only are at other times inclined to adopt—namely, a close embrace of the horse's neck. It is dangerous to do as instinct prompts, and pull at the bridle, because the horse, instead of merely stopping, as he would do on the level ground, is actually brought over backwards, and the saddle had better go over his tail than that the rider should cause this by clinging to the bridle. A horse going up-hill cannot kick, so that if the rider will only let go the reins, no greater harm follows than a fall backwards down a steep bank, which certainly is not pleasant; but it is better than the same accident with a horse upon him in addition. There is no occasion for buckling up the straps of the breast-plate tightly, as it is not intended to act except when the saddle slips back; and if too tight, under ordinary circumstances it impedes the shoulders.

A MARTINGALE is seldom safe with hounds, and should only be used by an experienced horseman, because it is very apt, when unskilfully employed, to pull the horse into his fence at the moment of rising. Many accidents occur from this cause; and though some horses are so awkward to ride without it that it seems indispensable, yet it should always be put on with fear and trembling by the young horseman. If his hands are good and light, and he can depend upon his not using it in going at his fences, this aid is far more useful, *with hounds*, attached to the curb-rein than to the snaffle. The horse's head can then be kept in place by this rein in his gallop, and he may be ridden, as he ought always to be at his fence, with the snaffle alone, leaving the curb at liberty; but if the curb is not quite free the head is even more confined than with the martingale on the snaffle, and the effect in pulling him into his fence is still greater. With a proper degree of presence of mind this can scarcely take place, and on the whole I am satisfied that in the long run its use on the curb-rein, with hounds, is safer than on the snaffle, and also far more efficacious. The martingale, when used on the snaffle, must be very long, because if short it will be sure to do the mischief I have alluded to, but on the curb it may be

as short as is required, and its full power may then be displayed; besides which, the check on the curb is much more severely felt than on the snaffle, and the horse soon learns to avoid hurting himself, unless he is maddened by too great a severity of bit, or too tight a curb-chain. This use of the martingale on the curb-rein is not at all general, but I learnt it some years ago from one of the best horsemen in England, and I have since used it with great advantage myself. When I first saw him thus equipped, I told him as a piece of gratuitous information at the covert-side, that his man had made a mistake; to which I received the civil reply, with a very knowing twinkle of the eye, that the mistake was on my part instead of on the side of his stable-man. And so by observation afterwards I found was the case; and I am astonished that the plan has not been more generally followed, especially as the above-mentioned person is a very celebrated individual in his particular line.

Boots are sometimes required, either for the fetlock joints or for the inside of the fore-leg, where in the gallop the one foot sometimes strikes the other leg, or, as it is called, "hits" it, either between the joints, which is the common place, or just below the knee, constituting the *speedy cut*. For these boots, see "The Horse."

A Spare Shoe, fitted to the fore-foot, should always be carried in a pocket of the saddle, with nails enough to fix it on, so that the blacksmith may be able to tack it on without loss of time and the use of shoes and nails that do not fit. The fore-shoe will always do for the hind-foot at a pinch, though it does not answer so well as the regular shape; but the hind-shoe will not fit the fore-foot.

Sect. 4.—Dress and Aids.

The Dress for riding to hounds is varied almost as much, and as often, as "the fashions" of the ladies. In one year the cap is considered correct, while the next it is voted "slow." Next year leather-breeches come into use, but some D'Orsay of the hunting field dislikes their feel when wet, and they are supplanted by imitation-doe-skin, or cords. Boots, again, are seldom two seasons alike; and within my memory there have been three complete revolutions in this department, without reference to the various Holderness, Raglan, and Hessian makes, which have never been able entirely to supplant the old English top-boot. This last article has steadily kept its ground, although, as I have already remarked, it has submitted to constant changes in the length and colour of top, and the quantity of wrinkles bestowed upon the leg of the boot, in which fashion is always changing the allowances. The cut of the coat also varies: at times having been a complete dress-coat, with swallow-tails, and at others a simple scarlet frock. The present fashion is in favour of the cap (though not by any means invariably so), with a moderately-full body-coat, leather breeches, and top-boots, with dark-coloured long tops. Woollen drawers and stockings, with flannel or elastic woollen shirts, should be always worn with hounds, because of the liability to wet, which in this country is always to be guarded against. Leathers, without some woollen material under, are dreadfully cold in wet weather, and should never be worn next the skin. The boots require to be tolerably strong, with thick soles, on account of the state of the ground, which is often so wet as to saturate a thin boot on dismounting for any purpose. In some few hunts green, yellow, or brown are the colours adopted, but in the great majority of cases throughout England scarlet is the hunting colour.

The Aids are the whip and spurs, which almost every one carries and wears. Fashion here also interferes, and sometimes enjoins the use of the crop, or handle without the thong, and at others permits the latter to be attached. But one or the other should always be carried, in order to stimulate the horse by striking him down the shoulder if he is tired or sluggish in rising at a strong fence. The spurs also should always be on, though they need seldom be used; but, in a long run, the time generally comes when a slight touch of them will serve to prevent an accident, unless the hunter is a very clever and game animal. They should be used in the last stroke of the horse, just before he is going to rise, for if they are delayed until he is in the air, as I have often seen, they are utterly useless, as the horse's power is then inoperative; and though he may alter the mode of coming down, he can never increase the effort with which he has risen.

Sect. 5.—The Covert-Hack.

A Covert-Hack is now generally used, because, in the first place, many of our best hunters are not good hacks; and, in the second, though the hour of meeting is six hours later than it used to be, yet the habits of the present generation have still further postponed the breakfast-hour, and

the fashionable man must ride at least 12 miles an hour to covert in order to avoid being thrown out. In days of yore our grandfathers breakfasted at daybreak, or sometimes rode 10 miles on an empty stomach to the house of a friend near the appointed meet; and they were contented to do this at a pace which would not turn a hair of their hunter's coat, even though that was perhaps not quite so silky and short as it is expected now to be. Such a practice would now be voted slow, even though the breakfast-hour might easily be appointed for 8 a.m., leaving an hour and a half or two hours to ride quietly to covert. But, no, the fast man must ride fast, and make his appearance on his blood-hack, galloping 16 miles an hour, and with his overalls bespattered with mud. He leaves his house at 9.30 or 10 a.m., and reaches the meet just in time to put off his outside skin of dirt, and appear without a blemish on his boots and leathers. Then mounting his hunter, which is waiting for him, he is ready to do such "deeds of derring do" as shall astonish the festive circle in the evening. For this purpose the hack must be a galloper, capable of keeping up a fast hand-gallop all the way from point to point; he should be an easy goer at this pace, safe, and clever enough to take any moderate fence which may interfere with a short cut from one point to another. Green lanes are often very deep, and it would be impossible to get along through them at the desired pace; the only alternative therefore is to turn out on the adjoining sound ground, and get over or through the fences as well as the hack is capable of doing them. If he is a perfect covert-hack he will creep or jump in hand, or get across the country in some way, according to the weight he has to carry; and he should therefore be a miniature hunter, with the additional requisite of being a good hack for the road. Many a horse is a pleasant and safe goer on soft ground, but if he is set going on a turnpike-road he will roll over his rider in the first half mile. This is what the covert-hack should *not* be; what he should be is, a clever and safe galloper. A trotter is tiring, in the first place; and in the second, is not suited for the green sides of a road or the green lanes which can generally be met with in reaching the meet. About 14 hands is the best average size for these hacks, whatever the rider may be; if for 16 st. or upwards, the hack must be a cob; but if for much less he may be blood-like, or even quite thorough-bred, if he can be obtained of that breed with sufficient action. Most covert-hacks, however, are under-sized hunters, the produce of mares intended to breed something more valuable in the market; but not growing into the contemplated proportions, the breeder is obliged to sell them as hacks; and when fast and clever enough they are devoted to the purpose now under consideration. Action is the main point; not too high, so as to throw time and space away, but a fast stealing-away kind of style, which gets over the ground without distressing either horse or rider. If the hack can get along in this way, safely over all sorts of ground, and can last at his three-quarter pace for ten or a dozen miles, he is a good covert-hack, let his appearance be what it may; but most men prefer good looks in addition, especially as these hacks are available during the summer for other purposes. A neat head and neck, with a general outline calculated to please the eye, are therefore eagerly looked for; and the consequence is that one of 14 hands, or a little more, tolerably well-bred and good-looking, which is capable of carrying from 12 to 16 st. comfortably, and at a fast pace for the distance above specified, is worth from 50*l.* to 100*l.*, according to his looks and action. A good judge will of course suit himself for one-half the lower sum; but in London, or any of the best hunting countries, such an animal is worth as much as I have stated. It must be recollected that he requires all the good qualities of the horse, except flying speed and great size; and that he must possess beauty of form and good temper, safe and fast action, cleverness, and above all good sound feet and legs to stand the battering of the roads over which he must often be ridden at his three-quarter pace. Now, many scores of hacks, so called, may be looked over before a good judge could select one corresponding in all points with the above description, and consequently when one is found it is fair to expect that his price will be estimated accordingly. Such animals fetch long prices even at the hammer; and when Mr. Tattersall has one before him, it more frequently reaches above the first-named sum than drops below it. It is needless to remark, that the groom who takes the hunter to the meet is left in charge of the hack when the exchange is made, and at once takes him home.

Sect. 6.—The Pad Groom, Stud Groom, and other Servants.

A Pad Groom, or Second Horseman, is another modern invention; and he is

intended to enable the forward rider to hounds to escape the consequences of his sharp burst. From 20 to 40 minutes at a steeplechase-pace will pump out most horses under any weight; and, therefore, when this has been achieved, the rider must either give up his amusement for the day or fall back upon a second horse. The latter plan is adopted by those who have the means, and a groom of light weight with a good eye for country is put upon the horse, with instructions to nurse him, and yet be at hand to make the exchange as soon as a check occurs, after it may be supposed that the first horse has had enough. For this purpose the pad groom, or, as he is now more generally called, the second horseman, should be of light weight, yet strong on his horse, so that he can command him and ride him, if necessary, at any fence. Sometimes this cannot be avoided, and the second horse *must* be ridden nearly over the same line as the rest of the field; but it must be remembered that in practice the difference is very great between going quietly over a line where a large field of horsemen of all classes have passed, and taking the same fences in the front rank. Those who have had to make up lost ground after an accident are aware of this, and must have seen in most cases gaps in the fences which any donkey can get over; yet, occasionally, a strong post and rail or a brook remains in *statu quo*, and must either be jumped or else a long *detour* must be made, which would take much more out of the horse than the leap with a light-weight. Hence, the second horseman must be capable of getting quietly over all these places, but should always exercise his judgment by avoiding them where it is possible to do so; because every exertion is so much taken out of his horse, and therefore it is only when the leap is a less one than the gallop to avoid it, that it is justifiable to put him at any large fence. By this kind of saving of the horse, and by taking advantage of keeping the inside of all bends, riding headlands, along lanes, &c., the second horseman ought to be able to bring up his horse at the end of a burst almost without turning a hair, and indeed frequently as fresh as when he started. It must also be borne in mind that these horses, though up to 12 or even 16st., are only carrying about 8st., and that they are consequently under every advantage; while the first horse is galloped through all sorts of ground and over every fence as it comes, under a difference of 4 or 6st., or even more. But it requires great judgment in nursing the horse, and in knowing when and where to bring him up to the master; still there are some who are always ready when wanted, and yet until that moment they have never been within nearly a mile of the first horse. On the contrary, others keep close till they are really required, and then are a mile behind. Natural quickness and a desire to please are indispensable qualities in this kind of servant; and when perfect in his vocation, he is an invaluable adjunct to the stud of the heavy-weight in a fast hunting country. He generally also takes care of two horses, as an ordinary groom.

THE STUD GROOM is the head groom who has charge of the whole hunting-stable, with as many servants under him as are necessary. Boys are not generally employed about hunting stables, because the object is not so much to keep the weight off the horses' backs as in the racing stable; and the objection to boys that they cannot be depended on, is greater than any compensating advantage will balance. The usual number of helpers or grooms in a hunting-stable is one to three horses, the stud groom not counting as one, and the second horseman taking either one or two. In small stables the head man takes his share, but where there are a dozen horses his head is better employed in looking after the men than his hands would be in dressing his share of the horses. Accidents are constantly occurring in the hunting stable, and these he will himself attend to, which, with the measuring out of corn and seeing after what is wanted by the men under his care, will fully occupy his time while the stable hours are passing. The stud groom should have had considerable experience in horses of this class, either in a training stable or in a regular hunting establishment; the latter being the best school, because there are generally bad habits picked up in training stables which are not often lost. Still many very excellent men of this class have passed the ordeal with advantage to themselves and their employer, and if they are unscathed they are extremely valuable. The principles upon which the two kinds or horses are got into condition are so similar, that what is learned in the one is always useful in the other; whilst at the same time, some modifications must always be made to suit the difference of external circumstances.

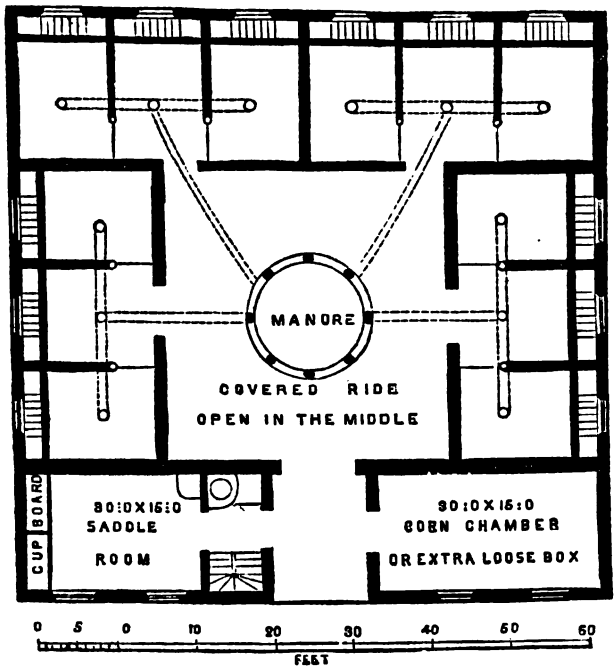
THE WAGES of the head man vary from 60*l.* a-year up to 200*l.* or 300*l.*, and in large establishments no price is too high to pay for a really clever man who knows his business and will attend to it. The pad groom

will generally require a few pounds a year more than an ordinary servant; but his exact wages will always depend upon the value his master places upon his powers of doing what is required. In some instances I have known 100*l.* a year given for this office; but this liberal scale of remuneration is not often adopted. The wages of ordinary helpers vary from twelve shillings to a pound per week, according to the class of men required, and the locality.

Sect. 7.—The Hunting Stable.

The Hunting Stable should be built on somewhat different principles to the racing stable, inasmuch as it is required for horses which do very severe work once or twice a fortnight, and then have an interval of comparative rest. They are also much more exposed to the weather, and the temperature in consequence should be several degrees lower. Hence, the hunting stable should be lofty, airy, and light. At least 2000 cubic feet should be allowed for each horse, which will require for this purpose two cubes of ten feet in every direction. The best proportions, however, for each horse are found in a box 18 feet long, 12 wide, and 10 high, which will give 2160 cubic feet; and if the same sized box can be made 2 feet higher it will make 2592 cubic feet, which is quite as liberal an allowance as is desirable in any building heated by the powers of the horse alone. The annexed plan

The Hunting Stable.



is calculated to accommodate 12 hunters, and is the most economical and convenient form. It consists of four separate stables, all of equal size, and each adapted for three horses, giving a loose box to each, but separated from one another above the level of five feet by iron bars only; two doors in each stable divide off the three boxes entirely when so desired, and they may be made to slide into the divisions completely

out of the way when it is so ordered. The slides are from above, and the doors thus hung rapidly travel across, and yet cannot possibly be opened by any horse. Each stable should have a large ventilating funnel which is capable of being partially or entirely opened and shut by a wooden valve, worked by a string, and within the easy reach of the head groom. A window is at the head of each horse, guarded by iron wire, and high up above the rack and manger. These should be of the enamelled iron form, with a separate division for water or gruel; and the rack between them and on a level with them, by which a great saving of hay is effected. A trapped-drain runs into the central tank, which also takes the manure; and the wall surrounding this carries eight pillars, which support a covered shed for the convenience of exercise in bad weather. Such a stable with all the appurtenances in a plain but good style, yet without much external ornament, ought to cost from 250*l.* to 300*l.*; or in some situations a little more, according to the price of materials and labour. With a stable on this plan, and *well celled*, there can be no objection to a hay-loft over. The steam is carried off readily by the ventilating shafts, and neither injures the hay and straw, nor do these cause any harm to the horses; but, on the contrary, they serve to preserve an even temperature in both summer and winter. The saddle-room fireplace should be made to heat the boiler in the anteroom to it, and then the flue should pass across the saddle-room, under the saddle-pegs, which are thus kept dry by its heat. In the vacant covered passage between the saddle-room and corn chamber, a dirty horse may be washed with warm water from the boiler and then removed at once to his stall; this is an excellent plan, and saves the great risk of cold which the long continuance of wet dirt is sure to occasion. On the whole, this form of stable will be found the most suitable for a stud of hunters of the above size, and if more room is wanted, three more stables of similar size can be added, making room for nine more horses, and still preserving the square form, which is convenient, because it allows of the circular ride for frosty or wet weather.

CHAPTER II.

PURCHASE AND MANAGEMENT OF THE HUNTER.

Sect. 1.—Purchasing the Hunter.

Hunters are generally obtained by Purchase; and few people who breed them also ride them, except as a means of sale. Most of our hunters are bred by farmers, who seldom keep a large stud of these animals, but breed two or three colts every year. Sometimes, however, a larger number of this class of horse are reared upon a farm, and to the great profit of the breeder; but, as a rule, the gaps in the hunting stable are filled either by thorough-bred drafts from the racing stable, or by hunters bred expressly for the purpose by farmers, who rear them and ride them till five or six years old, and then when wholly or in part broken to hounds, and sometimes when perfect hunters, they are picked up by dealers, or by gentlemen without their intervention. In good hunting districts the farmers have a good chance of showing off their young horses to advantage, and can often command high prices in consequence; but generally they are obliged to accept a lower sum than might be cheerfully given by the ultimate purchaser, because they have no means of displaying their horses to any one but the dealer or his agent. In this way one or two hundred per cent. are realized by the London dealer, or by one of the first provincials; but as the price is regulated by the fancy of the purchaser, and as some parties *will* pay for their sport, it is not to be wondered at that dealers with elastic consciences are ready to accommodate them. Few private gentlemen who hunt, and who often have a large stud, are in a position to breed horses, neither possessing the inclination nor the knowledge necessary for its successful prosecution. Besides, I have shown that first-class thorough-bred colts cannot be reared for less than 150*l.* at three years old; and if the additional two or three years be set against the extra price of sire and dam, and the forcing kind of keep necessary for the racing-colt, it will be found that hunters bred expressly for the purpose by gentlemen for their own studs, will average that sum, or very nearly so. Now, if the *average* is 150*l.*, the result will

be that when the various chances of lameness, bad action, bad temper, &c., &c., are taken into account which will cut off two-thirds of the number, that the price will be nearly trebled, and that the value of good weight-carrying hunters, perfect with hounds, sound, and fit for sale, will be fully 400*l.*; a sum for which very first-class horses may always be bought. Thus, I have shown that the best plan is to go to market for these animals; and the only question is, how and where? Of course, where there is a demand there will always be a supply; and the mode of effecting this arrangement will appear in examining into the general subject included under the head of "The Practice of Breeding Horses of all kinds."

THE BEST MART FOR HUNTERS is the hunting field, where their qualities can be satisfactorily ascertained; nevertheless, it is easy to practice deception even there. Some men can ride an awkward horse in such a style as to lead the spectator to believe that he is as handy as a kitten, which feat is effected partly by careful drilling and the use of the voice instead of the rein or spur, but chiefly by the knowledge which the animal has obtained that his rider is a horseman of the first order, and, in consequence, his master. With such a man the bad-tempered horse is often subdued into good behaviour, and does all that he is asked; indeed, he performs so well that the customers almost fight for his possession, and a long price is given without further trial, the fortunate purchaser not even requiring one. The next week sees the same animal mounted by his new proprietor, who soon has to commence a struggle for victory that as often as not terminates in favour of the quadruped; whilst the biped, who would like to call himself *master* as well, is obliged to consider himself well beaten, and, in despair, he sells his horse at the hammer without a character. Hence, it is never safe for a purchaser to calculate upon a horse suiting him till he has ridden him, for even in less extreme cases than the above he will often find that what suits his neighbour will not always suit him. Some men like a puller, some like a horse to go with a slack rein, and some again like the happy medium (when they can get it). The same applies to the style of jumping, which only pleases a certain class of men when it is very deliberate and cautious, giving time for "craning," and allowing the mind to be changed very late indeed. Horses which rush at their fences are an abomination to these men, and they would not ride one which had the least tendency that way; yet there are others who like horses to take their fences quickly, and, though no one perhaps approves of actual rushing, yet a very close approach to it is often patronized. Creeping, too, is considered indispensable by many men, while others dislike it above all things, and never expect a horse to take his fence at any pace less than a trot. For all these reasons, and independently of the difficulty of ascertaining the temper in any other way, the man who wishes to be well suited and is at all particular should try every horse before buying him; which he may do to a certain extent without hounds, but not satisfactorily, since they are often different creatures quietly by themselves and when in company, or especially with hounds. I recollect on one occasion a gentleman of my acquaintance buying a magnificent chestnut mare after riding her over a dozen fences, which she topped in a most beautiful and clever style, taking a circle round his house, and in cool blood. He thought he had a treasure, and was delighted at getting such a hunter for *only* 200 guineas. Next month the hunting season began, and in the meantime she was regularly put into condition by his groom, who reported that she carried him beautifully in her gallops, and that she was a "clipper." I happened to be present at the covert-side on the first day, and the new purchase won the general admiration of all the field. But no sooner was the fox found and the first fence arrived at than the mare and her rider parted company, she having "bucked" in her jump, and thrown her new owner with great force on to his back. The fact was that she was a very excitable animal; and when quietly by herself she would do her fences just as a hunter should, but when with hounds she overjumped herself at first, cocking up behind in the most awkward manner, and unseating any one but a very strong horseman, which my friend certainly was not, though a good performer enough with an easy horse to ride. Now, if this mare had been tried by him with hounds he would have declined her at once; and though he persevered for some time he never could ride her in comfort, and seldom escaped a fall or a very near approach to it on first getting away with the hounds. A hunter, therefore, must be examined not only as a horse in the usual mode, but his hunting qualities should also be investigated by an actual trial; and hence an experienced hand will say, on hearing the price and

approving of it, I will give you all you ask, if you will let me throw my leg over him, *and I like him then.*" It is extraordinary what a difference this trial often makes in the estimate formed of a horse, not only in this case, but in all others. By many it is supposed that a walk or a trot in hand before the buyer is all-sufficient, and that a horse may be bought at the hammer with some degree of certainty as to his suiting the particular taste of the purchaser. This, however, is a fallacy; and though a run up and down the yard at Tattersall's is better than a stable examination without it, yet a few yards in the saddle is worth ten times as much. An experienced horseman detects in a very few yards whether a horse goes strongly or not, and whether he can move under weight; and though a longer trial is still better, yet a very short distance, especially if the ground is a little undulating, will serve to give a tolerably just estimate of the natural capabilities of any animal of the species. The mouth is of so much importance to the due performance of the hunter's duties, that it must be taken into account, and yet it cannot possibly be more than guessed at when there is only a run of a few yards with a loose rein or a sudden jerk to pull up. In the stable it is quite out of the question to attempt to pick a hunter; and there will always be a grand variation in a stud of horses between the pick in it, and after they are shown out. Next to the hunting field in choosing a hunter, and especially when money is no object, are the stables of the best London dealers, as well as some provincial ones of note. It would be invidious to particularize, but there are at least a dozen in London, and many others in the country, where every variety of hunter may be obtained *by a good judge* with a long purse. Here a gentleman known to the dealer may always have a fair trial; but he must not expect to be allowed to ride a fat horse as he might do one in condition, nor will he find that such an animal will go in a style fit for hounds in his fat state. Some dealers who do much with hunters keep a certain number in the season always tolerably fit to go, and these may well be tried with or without hounds; but the majority are in "dealer's condition"—more like beef than hard horseflesh. It is not, therefore, to be wondered at that sellers are sometimes scrupulous about allowing their horses to be tried out of their sight; for they are well aware, by experience, that vast injury may easily be done, and speedily too, both to wind and legs, as well as fat, by riding horses while thus totally unfit. At the hammer good hunters are often sold at long prices, when they are well known in their respective districts; and a stud with good characters will command very high sums. During the summer of 1865 a stud of hunters, to the number of fourteen, and not of any extraordinary celebrity, were sold at Tattersall's, averaging about 350*l.* per horse, and none of them showing any extraordinary weight-carrying powers either. But unless a horse has a character it is a dangerous thing to meddle with him; for though he may be as good-looking as possible, and all over a hunter in appearance, yet when tried he may be utterly useless. Such a result often follows a speculation, even with the advantage of good judgment and experience; and the lottery is in this department more often full of blanks than in any other where horses are concerned. Hacks and harness-horses may much more easily be selected with this imperfect trial, but hunters cannot be more than guessed at; hence, it is never prudent to give much more at the hammer for a horse intended to serve as a hunter, than he will always command again at the same kind of sale, and for harness or general purposes; and it is a good rule not to exceed that sum by more than you are careless of losing; then if he turns out well, so much the more satisfactory is the result; and if not, he may be resold at the trifling sacrifice originally contemplated as a safe resource. In this way a good hunter may often be picked up at comparatively little money, but generally not until several have been rejected and resold as only fit for "flat-catching," or for harness-work. At the other weekly sales in London few good hunters are put up, and the purchaser would do well to confine his attentions to the above well-conducted establishment. No tricks are allowed there more than are inseparable from the nature of dealing; and whatever is stated as a fact by the auctioneer may be depended on, as being to the best of his belief. Few thoroughly-made hunters are quite sound in every respect, and some very celebrated horses have been notoriously the reverse; consequently there are many hunters of known good character which are sold with all faults, but the majority are warranted sound, and may be returned if proved to be otherwise, within the time specified in the rules of the establishment. Lameness of many kinds may be temporarily cured with rest, &c., but roaring, whistling, and all defects of the wind, are easily discovered

on the first smart gallop, and generally also in the stable, though by no means invariably so. Many horses which are not roarers will make a noise in the stable, and some which are rank noisy ones are quiet on the threat with the stick in the true scientific way. The best time for procuring a hunter, or a stud of these animals, is at the end of the hunting season, when they may be often bought at low sums, and showing all their faults, in the shape of big legs, blows on the shins, &c., which will all disappear by rest and proper treatment; whereas the very same animals in six months' time would be worth 30 or 40 per cent. more money, and are not so often to be met with either, because most people sell off when they have determined to give up hunting, which they generally do at the time when there is no temptation to adhere to its pleasures.

Sect. 2.—Summering.

Nimrod *v.* Nature.—Until within the last thirty or forty years, hunters were almost always turned out as soon as the first grass showed itself, and this kind of food was considered a panacea for all their complaints. After being kept in a warm stable all the winter, and their coats made as fine as possible, they were stripped of their clothing as rapidly as their owners dare, and turned out, often without any hovel to run into in cold and wet weather. The result was frequently that in the autumn they came up broken-winded, or sometimes they died in the seasoning; and in all cases, if healthy, they were fat, pursy, and unwieldy, and required nearly the whole of the hunting season to fit them for the work they had to do. Certainly, for the pace our forefathers rode, a grass-horse if fed with corn also, as was often done, was capable of keeping his place through a run, though with a liberal display of lather; but as it is notorious that a horse in training requires six months, after leaving the grass-field, to prepare him even for a moderate race, and as it is also well known that a fast thing with hounds is still more trying than a race, so it is evident that this fast thing will require something more than grass-fed horse-flesh to carry the possessor safely through it. Hence, the plan has been almost universally abandoned, in great measure owing to the writings of "Nimrod" (Mr. Apperley) on the subject, and the hunter is now almost always summered in a loose box. Besides, there are other objections to turning a hunter out at this season of the year. It is generally the case that his legs and feet—sometimes one or the other, sometimes all—are inflamed, and require rest, blistering, firing, &c. Now, if this is the case, the turning out only aggravates the mischief, because these horses are, of all others, the most excited by liberty, from their associating it with their usual occupations, and gallop about, battering their legs on the hard ground, until the original mischief is made ten times greater. If legs or feet are to be mended by turning out, this ought either to be done in the winter, or into marshes, which are objectionable, because they are peculiarly opposed to the future hard condition of the horse. Upland grasses make the horse flabby enough, but marsh grass is ten times worse. I have turned out many horses in the summer myself, when lame, but I never found them to be improved by it, and some have been utterly ruined by their galloping over the hard turf. If they must go out they should be fettered, which stops their gallops, and is a very good preventive at this season of the year. The Nimrodian plan is as follows:—The horse is gradually cooled down, by taking off his clothing by degrees, and by abstracting his corn partially or entirely, giving physic, &c. &c.; all which will require nearly a month, or until the middle of May; he is then to be put into a large, roomy, and airy loose box, with the upper half of the door capable of being constantly left open, or with a strong chain put across the door-posts, the door being left entirely open, which is better still, because it allows of a free circulation of air. When thoroughly cooled down, the legs may be blistered or dressed with any of the numerous applications which will be hereafter described. Tan is the best material for the floor of the box, and if thickly spread, serves all the purposes of litter, whilst it keeps the feet cool. Italian rye or Lucerne, or ordinary grass, may be given at first mixed with an equal quantity of hay, but when the horse is accustomed to them, forming the entire food. Vetches I am not fond of for horses doing no work. If young, they are irritating to the bowels, and do nothing but scour them; and, if old, they are strong and heating. For coach-horses at work, when given with corn, they answer better than grass, especially when the pods are fully developed; but for summering the hunter, I prefer some of the grasses or Lucerne, which are not nearly so heating as vetches. The shoes may be taken off, and the feet pared out nicely, removing all broken pieces of horn, and cutting out any sand cracks, seedy toes, &c.,

to the quick, so as to allow them to be radically cured at this time of complete rest. If the horse is tolerably young and hearty, he will do better for a month or two without any corn at all; and during that time he will have recovered from the inflammatory condition of the system which high feeding inevitably produces. The blistering, firing, or other remedies, have now done their work, and the legs are reduced in size, with all their old lumps and bumps almost entirely gone. This will be accomplished by the end of July, or sometimes, when the legs are very stale, a month later; until which time the corn is still forbidden, or only given in small quantities, and the whole attention is turned to the removal of the effects of the thorns and battering blows which the legs and feet have sustained during the previous season. But it is by this time necessary to begin to restore the corn, and to leave off partially or entirely the green food. By the end of August, at latest, hay should form the principal kind of fodder, with two feeds of oats, or thereabouts, according to the fleshiness of the horse. If he is much wasted more must be given, and if the reverse, one feed a day will be enough. The shoes may now be tacked on, and the horse walked out regularly every morning on the grass for an hour or two. In the middle of September the training for the hunting season begins, and at that time the summering may be considered at an end. WATER should be constantly supplied during the whole summer in the box, so that the horse may drink when thirsty. The COAT is left entirely undressed. PHYSIC will be required two or three times, or oftener if the stomach is much upset by the long-continued work and fasts of the previous winter. Nothing tries the constitution of the horse more than these long fasts, which are not suited to his small stomach; this, from its size, requires to be replenished every four hours at most, yet it is often six, eight, or ten before the tired hunter gets even a bucket of gruel, and no wonder, then, that he requires a fortnight to come round for a similar day's work. Condition-balls, &c. &c., will rarely be required; but sometimes, in spite of all the green food and other adjuncts, the stomach remains obstinately out of order, and the food seems to do no good. Here a stimulus or stomachic is required, and a warm cordial stomach ball, once or twice a-week, will be of great service. See Diseases of the Horse.

SECT. 3.—BREAKING AND TEACHING.

BREAKING is of course required for those colts which are specially intended for hunters, but except in teaching to jump it does not differ from the plan adopted in ordinary colt-breaking. The same mouthing-bit which I have recommended at page 397 will also suit this kind of horse, but its reins should be buckled considerably tighter and the horse "put upon it" for an hour a day until he bends himself well. He may also have what is called a "dumb jockey" buckled on his roller, with springs contained within its arms, by which the bit is allowed to give and take with the horse's action; but still always having a tendency to bend the neck and bring the horse back on his haunches. Unless this is effectually done, and the colt is made to use his hind legs by bringing them well under him, thus carrying a good part of his weight, he is never safe across ridge-and-furrow, nor in awkward places, where he is obliged to creep up close to the take-off, and gather all his legs together before making his spring. When the horse is being lunged he may be made to jump a bar, but not too often over a moveable one, or he finds out its tendency to fall and becomes careless. A fixed bar should be used as soon as the horse understands this part of his business, and he will not hurt himself if he falls over it a few times; because there is nothing to hold his legs, and, consequently, he either falls forward or backward without injury. The bar should have side guides, so that in lunging, the horse must go over or come back and face the whip of the groom following him; and when they are properly managed the leading-rein slides over them without catching, and the bar may be taken by the horse in each round of the lunge. Some horses seem to enjoy the fun when they are clever and good-tempered, but not more than six or eight jumps should be given in any one lesson for fear of disgusting the pupil. When he is perfect over the bar with the lunging-rein, and *after he is broken to all his paces*, he may be ridden over it, or any small fences, in cool blood; but he never ought to be put at this kind of work till he is perfect at all his other lessons. For if he does not know what the spur or the pull of the rein means, it is useless to confuse him by trying to make him do what he does not understand. No large jump should ever be tried without hounds, and when the colt is willing to go when he is wanted over small places, it is better to defer the conclusion

of his jumping education until he can be taken out with hounds, as I have explained under the section treating of the teaching of the steeplechaser. With hounds the colt is inclined to follow the field of horses, and will soon attempt any place his breaker puts him at; though often making mistakes, and sometimes carrying the fence before him into the next field. Good hands, a firm seat, and an unruffled temper soon make him know his powers; and in a few times he learns to avoid mishaps and keeps his legs without difficulty. The breaking-bit already described is the best to ride young horses with, as it is large and allows of considerable pressure without injury; so that if the breaker is obliged to keep the head straight with some force, the colt is not thereby dragged into the fence, as would be the case with a small and sharp snaffle or with the curb. The same caution must now be exercised as before with regard to a too long continuance of the early lessons. The young hunter, as well as the steeplechaser, should be gradually accustomed to his practice, consequently should never have too much at first. See page 435, under the head of "Steeplechasing."

Sect. 4.—Conditioning.

The Preparing the hunter for his work is carried on exactly on the same principles as the training of the racer, or more especially of the steeplechaser. Physic having been given, he must be sweated, if necessary, and generally over about four miles. Walking exercise to the amount of about three hours a day is always enjoined, and if good turf can be obtained for the purpose so much the better. A road will do very well with horses possessing good feet and legs; but in all cases grass is cooler to the feet, and gives less jar to the legs. According to the nature of the country must be the severity of the preparation. If it is a grass one, with a good scent, the horse must be made fit for anything, and he may well be trained just as in the preparation of a steeplechaser. (See page 440.) If, however, the runs are likely to be slower, he may be kept much bigger, and more full of flesh, requiring only an occasional gallop, and no sweat, unless he is very lusty. Very often he is required to go out twice a week, and then if he is drawn fine he sinks in flesh, and is soon wasted to a shadow, and unfit for his business. The groom, therefore, should understand what he is to get his horses ready for, and act accordingly. The corn should be gradually increased, with one or two doses of physic in the middle of the preparations; and the hunter is got ready to begin his season.

Singeing, or Clipping, is absolutely necessary in many hunters, if the horse is to be made as fit as he is capable of. Many hunters are always rough in the winter, and if they are allowed to keep their coats on they can never be thoroughly dried after work till the next day; and the consequence is that they are weak, and subject to coughs. The gas-lamp now removes the coat in a very superior manner, and has almost superseded the use of the clipping-scissors. It consists of a broad kind of comb, perforated with holes, which communicate with a flexible tube screwed on to a gas-pipe. The gas, on being admitted by turning a cock, is lighted, and burns with a series of strong jets along the edge of the comb. This is now run over the surface of the horse, and as it raises the coat by the teeth of the comb, the gas burns off the ends, and thus reduces the length. A clever hand will soon burn off the whole coat of a horse down to a proper and equal length, and he then looks nearly as well as if clipped, but certainly not quite equal to the appearance of a coat well done by a good clipper. It is usual to give horses a sweat after clipping or singeing, in order to get rid of the burnt ends of the hair, and, as it is said, to prevent their taking cold; but I cannot see how this can be the result, when an ordinary sweat is known to render the horse more liable to cold than before. A good washing with soap and water answers the same purpose, and when a horse is poor, and cannot afford the loss of sweat, it is always to be preferred.

The Selection of the horse to be ridden on any particular day is sometimes left to the stud-groom, but generally the choice rests with the master, after consulting with his servant and ascertaining the comparative fitness of his horses. The one which is the most fresh is of course selected, if he is as well adapted to the country which is to be ridden over as the next on the list. Sometimes in this respect there is a great difference, and the horse which will go well over one kind of country will be a bungler over another—as, for instance, when there are frequent water jumps, or stone walls, which require a very different style of jumping, though some few horses are equally good over both. Some hunters, when intended to be used the next day, require setting on the muzzle just as for racing, but should always have their hay first, and should then be set either late at

night or very early in the morning. It is seldom the case that the hounds find before 11 a.m., and by 6 in winter it may be put on after a feed of corn and a few go-downs of water, and kept on till the next feed just before starting. Many horses are very greedy in eating the litter, and will fill themselves as full as possible in this way, if allowed to do so. About 8 o'clock a couple of quarts of water may be given, and at 9 the second feed of oats, and by 9.30 the saddle is put on, and the horse started for the covert-side. In very cold weather a light quarter-piece may be put on, but almost always the horse is taken out without one. I confess that I can see no reason why this should be so, and many horses no doubt are chilled by waiting for half an hour at the covert-side before they are mounted by their owners. They may be walked about, but this will not keep them warm in a windy and wet day; and I think it is a very good plan to allow the sheet to be kept on, and only removed when the hounds are thrown into covert, and there is a momentary expectation of finding. Hunters are always exercised in warm clothing, and yet though they are walked to covert, they are expected to keep as warm there without clothing as if they never had a cloth on. It is the long-continued exposure which chills, not the removal of the cloth for a limited time; and I am sure that I have often seen the coats all turned the wrong way in a lot of hunters waiting at the meet, through an adherence to the usual plan. The groom will of course take care that the girths are properly tightened before he hands over his charge to his master's use; also, the curb-chain, that it is not too tight, yet sufficiently so to command the horse.

Sect. 5.—Getting Across-Country.

The General Principles upon which this exciting amusement is conducted have been already alluded to; it now remains that we go more fully into the details of its practice. In order to prevent accidents as much as possible, and yet not to interfere with that degree of emulation which gives its chief zest to the sport, certain rules have been for a long time, by common consent, adopted. They are now fully recognised in all hunting countries by those who wish to be considered sportsmen, and any departure from their *dicta* is a breach of good (hunting) manners. In addition to these rules some remarks will be offered, more in the shape of advice to the tyro than as bearing upon recognised customs.

A Line of his Own should be taken by every man, either strictly behind another or at a given distance to the right or left; and he should never attempt to deprive his neighbours or his leader of the line which they have chosen, though he may fairly compete with them in other respects. By the adoption of this rule all jostling in riding at the same weak places is avoided, which is one of the most dangerous practices that can be attempted in the hunting field. If there were not some rule of this kind, two men riding jealously at one another would be constantly going together at a gap or thin part of a fence, neither would give way, and the two horses would rise at the same moment, and one or both would almost inevitably fall into the ditch. Such an accident does sometimes occur with young men ignorant of the rules of hunting, and when it happens it leads to a very nasty fall, because both horses being down alongside one another there is great risk, not only of a bad fall, but of a kick from the opponent's horse. But if riders will always keep their proper distance from one another, and ride square at their fences, nothing of this kind would happen; it is always pretty clear in getting over one fence what is the proper place for each man to take in the next. If there is a decidedly weak place, and only one, it belongs to the person who is opposite it; and his companions should either go to some other, or wait their turns after him. Of course there are cases where it is difficult to decide this, but, generally speaking, it is pretty clear in practice, unless a man in his heat and jealousy is wilfully blind. I have already observed that riding to hounds is now a complete race, and few men would care to indulge in it without the excitement of competition. The hunting of the hounds is merged in it, and forgotten for it, and they are only made the means of pointing out the direction of the line which is to be taken by the competing field.

A Familiar Acquaintance with the Country which is being crossed should, as far as possible, always be obtained; and the tyro should learn the chief land-marks and their bearings upon the covert which is most likely the point of the fox; then, if hounds are inclined to run in slight circles, always bear towards that point, but not too much, for fear of being thrown out; but in all cases *keep near the hounds*, as much as is practicable. A neglect of this last precaution is often attended with an entire loss of

place in the remainder of the run, and it is much easier to keep a place than to regain it. Many a good rider can take everything before him when he is sure of being right, but when once he is thrown out he is completely lost; and, instead of gaining on the hounds, loses ground at every fence. Knowledge of country, with a good eye for it, are the two essentials, and neither will serve alone. Short-sighted men are here lamentably deficient, and they are often obliged to submit their judgment to that of some friend, and follow steadily in his wake.

NEVER RIDE YOUR HORSE TILL HE IS BLOWN, unless you are pretty sure of a second, or that the fox is at his last resource. Sometimes, in the ardour of the contest, when the fox is evidently sinking, and only a few front-rank men are left with the hounds, a man may be excused for distressing his horse; but at other times it is neither humane nor sportsmanlike, because every experienced horseman ought to know when his horse has had enough, and if he perseveres beyond that time it can seldom do more than make the difference of a few fields. A pull at the right time will do wonders, and instead of causing the loss of place, will often improve the position. It is not going straight over sound land that distresses a horse, but the making use of him over deep ground, and at the wrong time. Many men seem to know no difference between sound turf and rotten or wet arable, and will kick their horses along over high ridge-and-furrow in a wet clay country, at a pace which no horse can bear for more than a mile or two in such a country. A workman would look out for headlands or footpaths, &c.; and would, by a slight *détour*, gain upon those who disdained to leave the line even for a few yards. Wet and sticky ridge-and-furrow tires a horse dreadfully, and the consequence is, that if he is pushed over them he speedily loses his powers and wind, and falls in a very ugly way at the first fence he comes to of a size above the average. Hence, every man who aspires to go well to hounds must learn to be "a judge of pace," and should endeavour to make out the signs of distress, and the best way of avoiding it. So much depends upon condition and breeding, that it is very difficult for a man with a strange horse to know what liberties he may take with him. Some well-bred ones will be blown, yet if nursed they will come again and again, while the dunghill-animal will give up when once he has lost his powers, and is gone for that day at least. In ascending steep banks, a careful and active horseman will dismount and lead his horse up, and by so doing often gains a mile or two upon his less humane and cautious antagonist. It is in all these little points that experience tells, and yet they make up the difference between the first-flight man in the beginning of the run and the one who is sure to be in at the death.

ALWAYS LET YOUR LINE BE SUITED TO YOUR WEIGHT as adapted to your horse. A light weight will get over timber in sound ground easier frequently than a strong bullfinch. Indeed, when a horse is used to timber, and is properly ridden at it, he will take it with less trouble to himself than almost any other fence. The difficulty is to be sure of your horse, and that he is not pumped out; for a careless hunter is always unsafe at timber, and a mistake there is almost sure to cause a fall. A tired horse should seldom be put at a strong gate, or post-and-rail, if it is possible to choose any other fence; and if he is sent at it, it must be accompanied with a little extra persuasion, and preceded by careful handling. For the above reason some rather heavy weights, who are good judges of pace, and thoroughly acquainted with their horses, will take a line of gates with great ease, and thereby gain much ground; but it requires judgment and some pluck; and the practice will seldom take a man through a season without a fall over timber if he indulges in it to any extent, and is above fourteen stone. But when the horse is fresh and the line suits, timber may generally be selected with advantage by all under that weight, mounted on good jumpers of that particular kind of fence. On the other hand, the heavy weight has the pull at strong thorn fences, when his momentum carries him safely through what will inevitably drag a light man off his horse, unless he is very strong in the saddle. It is all nonsense to assert that a heavy man can live with a light one, both being well horsed, and *equally good horsemen*. A bad rider of sixteen stone, with judgment, will often beat a bad rider of ten stone without, because his weight keeps him in the saddle, and his horse cannot pull him about as the other can the weaker rider; but a *good workman* of ten stone weight will be able to face anything, and ought never to leave his horse's company unless both are down. This last fact is fully recognised by really good men; and many an one of the above weight will go through season after season without doing so, although riding in the foremost rank. There is every excuse for heavy men getting falls oftener than they

do, but the necessity of the case makes them use their heads to save their bones. But with light weights, on good horses, I am satisfied that the above rule holds good, and that the fact of a fall *from* a horse in the hunting field is with them an evidence of bad horsemanship. Presence of mind is of the greatest importance in all accidents, and the man who can retain it fully when in trouble is almost sure to come out unscathed. It is astonishing what mistakes can be rectified by sitting steadily and assisting the horse in struggling on his legs; and I never could see the advantage of quitting the saddle wilfully when a horse is half down, and, as some boast, "rolling out of his way;" still it is quite true that although a good rider escapes many accidents which befal the awkward one, yet when he does meet with one it is generally a bad one. For instance, in falling over a gate the good rider falls with his horse, and together they roll, perhaps absolutely making a somersault, with a crash and a crush, too, accompanied by serious or fatal mischief. The same accident occurs to a loose-seated gentleman, and he is thrown clear of his horse, and escapes with only a little mud and a slight shaking. This accounts for the number of falls which some men get without suffering, and for their caring so little about them as often to ride at a fence with the full belief of landing on their heads or tails, instead of keeping their saddle. This is called "riding for a fall;" and though apparently very bold and courageous, is not nearly so dangerous as it looks. If they go fast enough with their loose seat they are off the saddle almost before the horse touches the ground, and by a little scrambling, added to the first shoot, they are almost sure to escape "scot free." Unless the fall is on hard ground it is not felt, but when a road is visited it is a serious matter, or when the ground is hard, as sometimes seen in autumn or spring.

In Putting the Horse at his Fence, be careful to collect him well into that pace which he does with most ease to himself, maintain this up to the fence, and do nothing but keep him straight till he is rising; then ease his mouth by leaning forward, and be careful not to confine it while he is making his effort. In descending, lean well back in the saddle and take hold of the horse's mouth without absolutely checking him; using the snaffle only if there is a double-bridle. Assistance is wanted more in balancing well back than in holding the horse's head up, and so long as this is done, and he is simply reminded that he is not intended to fall, he will save himself better than his master will save him. A loose rein is at all times a bad style, not because the horse wants assistance, but because he learns to gallop with too long and reaching a stroke; but, on the other hand, a confined head will always lead to one of two things, either the horse is pulled into his fence, or he gets dull in his mouth and leans on his rider's hands at all times. It is the most difficult point in horsemanship to manage the mouth with nice handling over a country, and one which is generally the last to be obtained. It is here that the delicate hand of the lady shows to advantage, and, coupled with her light weight, often enables her to beat her heavier companions.

Ride with the Knees Chiefly, do not depend upon balance, though it must be called in aid; and, above all things, do not depend upon the bridle. The best hunting-seat is one with a moderately short stirrup; the knee should be upon the padded part of the flap of the saddle and in front of the stirrup-leather; the heel well down, and the foot pointing nearly straightforward. The weight of the body cannot well be too forward on the saddle, and the fork, therefore, should be close upon the pommel. With heavy weights this is of importance, and the man of sixteen stone who sits far back upon his saddle rides like a bag of wheat, and soon tires his horse. The weight should not have to be lifted in the stroke of the hind-legs, but should occupy the centre of motion between the rise and fall of the fore and hind-quarters. The reins are generally taken in both hands now-a-days, and with a horse likely to refuse his fence, or which is at all in want of assistance, this plan is the most cautious; but with an accomplished hunter, having a light mouth, there is no necessity for the precaution, and the whip-hand may be carried in an easy position by the side of the body. The old plan of raising it in the air is now exploded, and is considered "slow;" it is bad, because when assistance is wanted the hand is a long way off the bridle, and while coming to the rescue the chances are that the time is gone by for its successful employment. At the same time there are occasions, as, for instance, in a drop-leap, when the body cannot be sufficiently thrown back without abandoning the reins with the right hand, or else slipping them so far through both hands as to make it difficult to recover the power over them quick enough to aid in case of a mistake.

In Ascending Hills it is often expedient to make a zigzag; but in descending you can never go too straight, as the opposite course often leads to a dangerous slip on the side, with a crushed knee or ankle as a consequence. Few horses fall forwards, and they always manage to save themselves by slipping down on their haunches. This is a point of great importance, and should always be strictly attended to. These few remarks, in addition to those applying to Horsemanship in general, will perhaps be useful to all who have no experienced friend ready to afford a practical demonstration of the same fundamental points. One actual lesson in the field is worth all the reading in the world; but, in default of this, the preceding observations will serve to assist the young aspirant for honours in riding to hounds.

The Varieties of Fences which present themselves in crossing the different countries of England, Wales, Scotland, and Ireland are very great; but the following will comprehend nearly all:—First, the simple thorn-fence; second, sheep-hurdles; third, post-and-rails; fourth, double-post-and-rails; fifth, gates; sixth, plain banks; seventh, ditches; eighth, brooks; ninth, banks with ditches, single or double; tenth, banks with thorn-fences; eleventh, banks with single or double ditches in addition; twelfth, high fences, which must be ridden through, called "bullfinches;" thirteenth, wide banks, with wattled or railed-fence on each side of a young fence, constituting what is called "the double;" fourteenth, stone-walls.

The Variations in Leaping are—first, the standing-leap; second, the flying leap; third, the "on-and-off" leap; fourth, the "in-and-out" leap; fifth, the creeping style; sixth, the drop-leap. The word leap is always synonymous with jump, and they are both used at present almost indiscriminately. At times, however, the one word has been voted slow, and at others it has been replaced by its rival.

The Standing-Leap is taken only over low timber, or other small places, or where it is dangerous to do otherwise—as, for instance, under a tree, which would strike the head of the rider, if the horse were ridden under it at any pace above a walk. In this kind of leap a perfect hunter is required which has long been accustomed to the style, and where that is the case he will gather himself up, and tilt himself over high stiles, or other similar places, in the most extraordinary way. Wide places should never be attempted without a run, and indeed, seldom require the standing jump. In practising a horse in this mode, he should be brought up to the place, and then suffered to take it at his own distance, and *with his head quite at liberty*. No horse can bear confinement while jumping standing, and this is one reason why so many fail in effecting it properly. Some imperfectly taught hunters are apt to get too close to the fence before rising, and in this way they sometimes fail to clear it with their fore-legs; others, again, take it at too great a distance, and then catch it with their hind-legs, which is almost worse. This accident often happens at stiles where there is a foot-bridge on both sides, and the horse must take them standing, or run the risk of slipping on one or other of the bridges. The consequence is that the stifles are caught by the stile, and the horse is arrested by it, and yet fails to get a footing for his fore-legs, from the presence of the bridge in front. Sometimes he is actually hung there, and can neither get back nor forward until the stile gives way. There is also great danger, in all cases of jumping timber standing, of the horse getting his legs between the bars after a mistake. It is a frightful accident, as it so often leads to a broken leg. The only remedy is to get some one to sit upon the horse's head, so as to keep him down, and then, by means of stirrup-leathers, to attempt to pull the leg back; but it requires great coolness and judgment to avoid doing mischief, and sometimes the bars are so close together, and the leg is so firmly jammed, that the saw applied to the timber is the only possible resource.

The Flying Leap may be either slow or fast, but the former is that which is usually practised in hunting. I have shown in the description of the steeple-chase, that in that species of getting across country the leaps must be all taken quickly at a good pace, constituting really a flying leap. But in riding to hounds, the ground has not previously been gone over, and until the horse actually reaches the fence and is just going to make his spring, he cannot tell what he may have to surmount. If, therefore, he is ridden very fast at his fences, there is no time to calculate the effect, and it will constantly happen that a mistake follows; but if a leisurely hand-gallop or canter is practised, with the horse well on his haunches, he can measure exactly his taking off, and the amount of muscular effort which will land him on the far side of the ditch, if there is one. It also provides for the power of stopping entirely, if there should happen to be a pool, or a gravel-pit, or a sunk road

beyond. For all these reasons, most men prefer the steady jumper; and he will certainly go through a season with the smallest number of mistakes. At all places where height is to be jumped, the slower the horse goes at them the higher he can rise, provided only that he is in a steady stride, with his hind-legs well under him. A trot does not succeed so well, because in it both hind-legs do not act at one moment, and they are not both equally ready for the spring. Nevertheless, some hunters are very clever in rising from the trot; and the celebrated Vivian, of steeplechase fame in its early days, was remarkably so. I have seen him get over high timber from the trot in a way which would puzzle our modern steeplechasers to imitate, either in height or style. For my own part, I should always prefer a horse to go a pretty good pace at his fences, provided he is willing to be stopped, if necessary. An animal which is under no control is always dangerous, but short of this it always appears to me that there is no medium, in point of comfort and safety, between the decided creep, which can scarcely be too slow, and the steady hand-gallop. In properly collecting the horse, and putting him at his fence, there is a great art, and nothing but practice will give it in perfection. Double-posts-and-rails require a great deal of collecting and rousing, and the horse must go pretty fast at them, as also must he at all wide jumps, including water in all its forms. One essential is, that the horse shall have confidence in his rider; for if he thinks he *may* turn to the right or left he will most probably do so, unless he is very fond of jumping. Nervous men communicate their feelings to their horses, and though it may be difficult to explain how it is done, there is no doubt of the fact. It is remarkable how soon horses find out what kind of man they carry, and how they alter under different hands. This is partly owing to a mismanagement of the mouth, but in great measure also to the trepidation of the rider. Unless, therefore, he has full confidence in his own courage, he need never expect his horse to go steadily and straight at his fences. The collecting is much easier than the management of the bit at the leap itself, for there are two opposite things to be done, and the delicate point is to hit the moment of change from one to the other to a nicety. The first is to "catch hold of the horse's head," as it is called—that is, to bear more or less upon the mouth, pull the horse on his haunches and rouse him, either by voice, heel, or whip. This lasts till the moment of the effort made to rise over the obstacle, when the head should be released, so that the horse may have all his bodily powers at his command. If the head is confined the haunches do not act fully, because in springing the head is protruded, and pain is given by the bit, if it is still held fast; and hence, to avoid the pain, the extension does not take place, the leap is not made with sufficient spring or power, and the horse alights too near the ditch, if there is one, or possibly in it. But in releasing the head judgment is required, for if the rein is too loose the horse is apt to alight in such a position that he is "all abroad," and without great help he will often fall; hence, most good performers, though they do not absolutely confine the head, yet they keep a very gentle and delicate hold of the mouth, and not only thus prevent the horse over-extending himself, but are also prepared to assist him if he is inclined to fall. This is the finished style of riding, and is only in the power of a man with a good seat as well as good hands. Both are wanted, because without the former it is impossible to avoid "riding the bridle"—that is, holding on by it as well as by the saddle; and without good hands that delicate management of the bridle which I have attempted to describe is impracticable. Every one ought to be taught to ride without a bridle, depending upon the saddle alone; and without such a means of acquiring the art few people attain that perfection of handling which is called "having good hands." It is always desirable on horseback, but never more so than in getting across country. LIFTING the horse is sometimes attempted with the bit, but I do not recognise its utility. When a horse is likely to touch the top bar of a gate, or in any way to use too small an effort, a stroke of the whip down the shoulder is the best lift. Rousing and collecting are quite distinct from lifting, which I believe to be a myth altogether. In the same category I should place the "second stroke" of the horse, which some people suppose is given in the air; and even Mr. Apperley is of that opinion. It is so thoroughly in opposition to all the laws of mechanics, that I must beg to differ from him and his supporters; and though I am aware that an instinctive effort is often made to increase the leap, yet I must doubt its utility. The world might be moved with a fulcrum, but without it not even a feather will stir. Now the only fulcrum for the horse at this time is the resisting power of the air, which is inappreciable, and consequently I cannot subscribe to

the above commonly received opinion. If this conclusion is correct, neither voice, spur, nor whip will have effect after the hind-feet have quitted the ground; and that such is the fact I am thoroughly confirmed, both from theory and practice.

THE "ON-AND-OFF" LEAP is required chiefly where banks are to be got over, and it is never attempted except at a slow pace; sometimes even from a walk, or while standing. Great care must be taken to give the horse his head, and he should only be assisted at the moment of touching the ground. Many horses are very clever at this kind of jumping, and especially the Irish breeds, which will top a bank, or even a wall, like a dog, touching with all four legs almost at the same moment, and doing it very neatly and quickly. Most English horses, however, raise themselves on to the bank with their hind-legs, and then dwelling for a moment on the top, they extricate their fore-legs deliberately, and descend slowly into the next field, using just sufficient force to clear any obstacle in the way, such as a ditch.

"IN-AND-OUT" JUMPING requires great practice, and very few hunters attain it in perfection. It should be attempted very slowly, and at a slight angle with the fence, which gives the horse greater room to fall and rise again in the space between. He must be well on his hind-legs to do it, and should have very little interference with his head. Double-posts-and-rails, or double hurdles, are almost the only kinds of fence requiring this style of jumping, which is much safer with a finished hunter than the attempt to fly both at once.

IN CREEPING, good hands and great quietness in the saddle are the chief elements of success, and without them both, no one is likely to do much in this particular style; hence it is that so few men can "creep" well, even though they have horses accustomed to it under other hands. When the horse has been thoroughly taught to creep, the head may almost be left without control, merely guiding him quietly to the gap, and then letting him take his own way; but where the horse has to be made to creep, a rein should be taken in each hand, and the head guided as if with a silken thread, to the right or left, or wherever the animal is required to go. When a horse is thoroughly accustomed to his rider's hand he will creep in the most clever style, and will never attempt to rise into a leap without the sign being given him by the heel, and by gently touching the mouth. It is a thing, however, that nothing but practice will give, and sometimes even that continued for a long time fails.

THE DROP LEAP can scarcely be too slow, unless there is a ditch or brook to be crossed at the same time. Even when there is a fence to be taken before the drop the pace must never be forced, or the fore-legs are sure to give way, and the nose touches the ground, followed by a severe fall. In dropping, the balance of the horseman should always be well back; the shoulder-blades almost, or quite, touching the horse's croup; the head of the horse may be relieved from all pressure of the bit until the fore-legs actually touch the ground, when a slight assistance will generally be prudent.

THE SIMPLE THORN-FENCE may be either in a state of nature or cropped or wattled with binders. The first is a very easy jump, and seldom occasions a fall, because even if the horse strikes it his legs pass through and no harm ensues. The cropped fence is dangerous, because the sharp stubbs sometimes occasion a severe wound to such an extent as to "stake the horse," as it is called, and endanger his life from the injury of some important organ. Wattled-fences are often very strong, and even when they are as thin as in Warwickshire they are made so strongly that no horse can break through them. In this country they resemble an espalier appletree in appearance more than an ordinary fence, and they must be taken with great care by strange horses, which are very apt to strike them, from being able to see through them; and if they do, they are almost sure to fall over, or sometimes even back again.

SHEEP-HURDLES may be taken in any way, as from their weakness they seldom occasion a mistake; from which quality they are most commonly used as a means of teaching to jump. In some countries, however, a stronger wattled-hurdle is employed, and it is much more unyielding in its nature. Neither, however, are often more than three feet in height.

POST-AND-RAILS are, when new, the most firm and unyielding kind of timber-fence, and should on that account be taken very carefully, with a good collecting of the horse, and a blow of the whip down the shoulder, or a free use of the voice and spur. A steady collected hand-gallop is the best pace to go at them.

PARK-PALING is a very dangerous kind of timber, because the legs are so apt to be held in the forks between the pales.

It should, therefore, always be taken with great caution.

DOUBLE-POSTS-AND-RAILS must either be taken flying at a good and fast pace, with a liberal use of the persuaders, or else the "in-and-out" jump (page 469) is to be adopted. In all cases this kind of fence is a dangerous one, and many otherwise bold riders carefully eschew it on all occasions.

GATES may be taken like posts-and-rails, but they are more dangerous, because they are generally across ground sticky and deep from the passage of cattle; and also from being sometimes unfastened, they give way a little on being struck by the knees of the horse, and thus ensure his fall in a very awkward manner.

PLAIN BANKS merely require the "on-and-off" style described at page 469.

DITCHES must be taken with great warning and persuading, with the spur, if wide enough to require it; but if narrow—that is, not exceeding six or eight feet, with sound ground on the landing side, a slower pace will suffice, or even sometimes a standing-jump.

BROOKS, unless fordable will demand a good pace, catching fast hold of the head first of all, and driving well at the brook, without confining the head, when taking the leap. Wherever there is a chance of refusing, both hands should command the bridle, and the horse should be carefully watched, lest he turns either way and "baulks" the leap.

BANKS WITH DITCHES only require a little more care than without them; and when the ditches are wide, the horse must be ridden a trifle faster.

BANKS with thorn-fences must be treated according to the nature of the fence, which if open and straggling, and without stubbs, does not interfere with the ordinary mode of taking the fence as a simple bank; but if the thorn-fence is strong and pleached, the whole must be taken flying, with sufficient pace to clear the width, whatever that may be.

The same remarks apply to the next division—viz., banks with thorn-fences and single or double ditches, except that they require greater caution, and more jumping power.

BULLFINCHES must either be taken at full swing, using the arms and hands as a guard for the face, or they may be passed by creeping, at which some horses are very clever, but a thick fence of this description can seldom be got through except at full charge.

WATTLED-FENCES on each side of a bank, called "doubles," are very difficult to get over when high and strong; the only plan is to jump on to the bank and off again, as they are generally too wide to take at once.

STONE-WALLS are the easiest of all fences when the horse is fully aware of their nature. The eye should always be on the look-out for very low places, which should *not* be selected, because they are often the boundaries of gravel-pits or stone-quarries, at which parts high walls are not required. Generally speaking, the safest place to take is a part of the wall of average height. A slow hand-gallop is the best pace, and the horse should be well collected on his haunches.

THE MATCH TROTTER.

PART II.

HORSE-RACING.

BOOK IV.—MATCH-TROTTING.

CHAPTER I.

SECT. 1.—DESCRIPTION OF TROTTING-MATCHES.

THIS amusement, formerly popular in this country and also in America, has now become almost a dead letter in the annals of sport. Occasionally one sees a report of a trotting-match between Mr. Smith's Tinker and Mr. Brown's Polly, or some such names, for 10*l.* a-side, but nothing to call for the attendance or the interest of the admirer of horse-flesh in the shape of a good hack. Very recently the following paragraph appeared in our chief chronicle of sport, which marks its present condition and character:—"*Trotting Extraordinary.* At Long Sutton, Lincolnshire, on the 26th July (1855), the Norfolk Cob, 4 yrs., 14½ hands, was matched to trot one mile in three minutes, which he completed in two minutes forty-seven seconds; and on the same afternoon was matched to trot four miles in thirteen minutes, which he also completed in twelve minutes nineteen seconds, although he threw his fore-shoe within a mile and a-half of the winning-post." This match makes a poor substitute for the exciting contests of Rattler and Driver, or Rattler and Rochester, when thousands changed hands, and when also the performances were vastly superior in point of speed. Driver, though little more than 13½ hands high, performed the extraordinary feat of trotting seventeen miles within the hour. Tom Thumb did eighteen miles within the hour; and 100 miles in a few minutes over ten hours in harness. But no English horse can compete with the American trotters, many of which can perform a mile in two minutes thirty seconds, on a fair trot; and can "pace" the same distance in about two minutes twenty or twenty-five seconds. This pacing is a bastard kind of a trot, and is not considered fair by the Americans themselves. In estimating the time of their races on the other side of the Atlantic, it must be known that the horses are allowed to start on full swing; but the American trotters which have beaten English horses on English ground were obliged to comply with the English custom of starting from the walk as usual in this country. The American trotters are very common-looking; generally of middle-size, and with plain hind-quarters, but good game-looking heads, and legs and feet of iron. In this last point, and in stoutness, they are unrivalled; and there is no doubt that there are very few English horses which could repeat Tom Thumb's feat of trotting 100 miles in a little over the ten hours. Still, I believe there are or have been some; and that it might be done by English horses with as much ease as by him, if they were expressly selected and trained for the task. The match against the Hereford Coach was a subterfuge, because the horse was led all the way. I have myself driven eighty miles in a heavy gig within twelve hours, more than four hours of which were occupied by a rest in the middle; and I am quite sure that the animal would easily have gone twenty miles further without the rest, or with only sufficient for taking her feeds; and this was without any training except her usual work. But Tom Thumb's performance was a very great trial of stoutness; and the Americans, I think, may claim a superiority in this respect, as well as in the pace at which the trot is performed. The fact is, that from a want of proper race-courses they have been compelled, until lately, to confine their contests to trotting-matches, and hence have bred exclusively for that purpose; and they have succeeded in a wonderful manner in doing what they wished, as they do in most of their undertakings, when at all practicable. It may be interesting to compare an account of the trotting-matches of America with those of our own island. The following report of one is extracted from *Murray's Lands of the Slave and the Free*; but there can be

no doubt that it is an exceedingly correct description of their races, as conducted in the neighbourhood of New York. At New Orleans the course is of a different nature, and there the gallop is the pace at which the contest is conducted; in fact, in all respects but in the beautiful elasticity of the turf itself, their proceedings resemble those of our second-rate race-courses.

DESCRIPTION OF A LONG ISLAND TROTTING-MATCH.—"The race-course is a two-mile distance, perfectly level, on a smooth and stoneless road, and forming a complete circle. Light trotting-waggons are driving about in the centre, taking it easy at sixteen miles an hour; outside are groups of 'rowdies' making their books, and looking out for greenhorns, an article not so readily found at Long Island as at Epsom. The race is to be 'under the saddle,' and the long list of competitors which had been announced has dwindled down to the old and far-famed Lady Suffolk, and the young and unfamed Tacony. A stir among the 'rowdies' is seen, followed by the appearance of Lady Suffolk. I gazed in wonder as I saw her—a small pony-looking animal, moving her legs as though they were in splints, and as if six miles an hour were far beyond her powers. Soon after Tacony came forward, the picture of a good bony post-horse, destitute of any beauty, but looking full of good stuff. The riders have no distinctive dress; a pair of Wellington-boots are pulled on outside the trousers; sharp spurs are on the heels—rough and ready-looking prads these. The winning-post is opposite the stand; the umpire is there with a deal board in his hand; a whack on the side of the stand, 'summons to horse;' and another, 'summons to start.' The start is from the distance-post, so as to let the horses get into the full swing of their pace by the time they reach the winning-post, when, if they are fairly up together, the cry 'off' is given; if it be not given they try again. When speaking of the time in which the mile is completed, the fact of its commencing at full speed should always be borne in mind. Sometimes false starts are made by one party, on purpose to try and irritate the temper of the adversary's horse; and, in the same way, if a man feels he has full command of his own horse, he will yell like a wild Indian, as he nears his adversary, to make him 'break up,' or go into a gallop; and, as they are all trained to speed more by voice than by spur, he very often succeeds, and of course the adversary loses much ground by pulling up into a trot again. On the present occasion there was no false start; the echo of the second whack was still in the ear as they reached the winning-post neck-and-neck. 'Off' was the word, and away they went. It certainly was marvellous to see how dear old Lady Suffolk and her stiff legs flew round the course; one might have fancied she had been fed on lightning, so quick did she move them, but with wonderfully short steps; Tack, on the contrary, looked as if he had been dieted on Indian-rubber balls. Every time he raised a hind-leg it seemed to shoot to his own length a-head of himself; if he could have made his steps as quick as the old Lady, he might have done a mile in a minute nearly. Presently Tacony breaks up, and ere he pulls into a trot a long gap is left; shouts of 'Lady Suffolk! Lady Suffolk wins!' rend the air; a few seconds more and the giant-strides of Tacony lessen the gap at every step; they reach the distance-post neck-and-neck: 'Tacony wins!' is the cry; and true enough it is, by a length. Young blood beats old blood; Indian-rubber balls 'whip' lightning. Time, five minutes. The usual excitement and disputes follow; the usual time elapses, whack number one is heard—all ready—whack number two; on they come; snaffle-bridles—pulling at their horses' mouths as though they would pull the bit right through to the tips of their tails. 'Off!' is the cry; away they go again. Tacony breaks up; again a gap, which huge strides speedily close up again—Tacony wins. Time, five minutes five seconds."—*Hon. Captain Murray.* In another part of his travels in America, the same gentleman alludes to another locality:—"The race-course at Philadelphia is a road on a perfect level, and a circle of one mile; every stone is carefully removed, and it looks as smooth and clean as a swept-floor. The stand commands a perfect view of the course, but its neglected appearance shows clearly that trotting-matches here are not as fashionable as they used to be, though far better attended than at New York. Upon the present occasion the excitement was intense; you could detect it even in the increased vigour with which the smoking and spitting was carried on. An antagonist had been found bold enough to measure speed with 'Mac'—the great Mac, who while 'whipping creation,' was also said never to have let out his full speed. He was thorough-bred, about 15¼ hands, and lighter built than my rawboned friend Tacony, and he had lately been sold for 1600*l.* So sure did people, apparently, feel of Mac's easy victory, that even betting

was out of the question. Unlike the Long Island affair, the riders appeared in jockey attire, and the whole thing was far better got up. Ladies, however, had long ceased to grace such scenes. Various false starts were made, all on the part of Mac, who, trusting to the bottom of blood, apparently endeavoured to ruffle Taconys' temper, and weary him out a little. How futile were the efforts the sequel plainly showed. At length a start was effected, and away they went, Tacony with his hind legs as far apart as the centre arch of Westminster Bridge, and with strides that would almost clear the Bridgewater canal. Mac's rider soon found that in trying to ginger Tacony's temper he had peppered his own horse's, for he broke up into a gallop twice. Old Tacony and his rider had evidently got intimate since I had seen them at New York, and they now thoroughly understood each other. On he went with giant strides; Mac fought bravely for the van, but could not get his nose beyond Tacony's saddle-girth at the winning-post. Time, 2 minutes 25½ seconds. Then followed the usual race-course accompaniments of cheers, squabbles, growling, laughing, betting, drinking, &c. The public were not convinced; Mac was still the favourite; the champion-chaplet was not thus hastily to be plucked from his hitherto-victorious brow. Half an hour's rest brought them again to the starting-post, when Mac repeated his old tactics, and with similar bad success. Nothing could ruffle Tacony, or produce one false step; he flew round the course, every stride like the ricochet of a 32-lb. shot. His adversary broke up again and again, losing both his temper and his place, and barely saved his distance as the gallant Tacony, his rider with a slack rein, and patting him on the neck, reached the winning-post. Time, 2 minutes 25 seconds. The shouts were long and loud; such time had never been made before by fair trotting, and Tacony evidently could have done it in two if not three seconds less. The fastest pacing ever accomplished before was 2 minutes 13 seconds; and the fastest trotting, 2 minutes 26 seconds. The triumph was complete, Tacony nobly won the victorious garland; and as long as he and his rider go together, it will take, if not a rum 'un to look at, at all events a d—l to go, ere he be forced to resign his championship."

Since the time of Tacony, his performances have been completely eclipsed by the celebrated Flora Temple, who, on the 15th October, 1859, did one mile in harness at Kalamazoo, in 2 minutes 19¼ seconds, a feat which probably will never be repeated. In the same year she did 2 miles in 4 minutes 50½ seconds. Trustee and Fulton have each accomplished 20 miles within the hour in America, but it has never been done in public in this country, though Sir William is said to have accomplished it in a private trial. In 1855, Pocahontas paced a mile in a waggon, weighing 265lb. with driver, in 2 minutes 17½ seconds, which is the fastest time on record for that kind of pace.

Sect. 2.—The Match-Trotter.

The Horse used for the purpose of trotting matches in this country is an accidental variety of the hunter or hack. Some, it is true, are, or rather were, bred expressly for the purpose, but now-a-days such an attempt would scarcely pay, since the outside price of a first-rate trotter, *as such*, would seldom reach 100*l*. If he be also a good hack, or harness-horse, and with good figure, suitable for a gentleman's use, he might perhaps command a few pounds more, but certainly not exceeding 150*l*. Hence, with this boundary as a prize, and with numerous blanks in case of failure, the speculation would be a poor one. Several trotting stallions are, however, used throughout the country for the purpose of improving the breed of hacks and harness-horses; and from their stock a trotter of more than usual powers sometimes is selected and used for match-trotting, as was the case with Rochester, who was supposed to be by the Norfolk Phenomenon. Generally speaking, these horses are about 14½ hands high, or not exceeding 15 hands. Rochester, who was one of our very best match-trotters, was about this height. The sketch accompanying this chapter affords a remarkably good idea of a very fast trotter of this class, while engaged in a time-match. It is seldom, however, that these horses are of such symmetrical proportions as he is there represented; but such is sometimes the case, and the artist has indulged in a fanciful *beau ideal* of what a match-trotter should be rather than what he is. But there is no reason why such beauty of form should not coincide with excellence of performance any more than in the case with the ordinary racehorse, where elegance generally coincides with excellence; and the best horse of his year is often also the best-looking. Such an animal, however, as is represented in the sketch would be worth a long price for figure alone, if accompanied with only ordinary trotting powers. The head is perfection, and it shows the exact

expression of the horse when engaged in doing "all he knows." The oblique shoulder, long low body, strong loin, and well-formed bony limbs, are exactly suited to fast road-work; and the horse looks as if he could keep an ordinary hack on the fast hand-gallop, as is there represented, with the attendant timekeepers. In some cases trotters have been nearly, or quite, of Eastern blood, as, for instance—Infidel, by Turk; Scott, by Blank; Pretender, by Hue and Cry, out of a thorough-bred Pretender mare, &c.; but, generally speaking, they have been less than half-bred.

Sect. 3.—The Rider.

The Riding of Trotters, so as to extend them without breaking, is a task of great difficulty, and requires an union of good temper, seat, and hands seldom found together. These horses almost all pull considerably, and, whether English or American, can scarcely be made to do their outside performance without a strong arm and a steady hand. They are generally ridden in a plain Pelham or a snaffle, and sometimes with a straight bit; but a Pelham, or common curb, is required to pull them up short when they break, or, as the Americans term it, when they "break up." At this time if they have only the bit with which they are ordinarily ridden, they can scarcely be stopped in time to satisfy the umpires, and hence the necessity for a severe control in the shape of one or other of the above curbs. The seat requires to be very steady, and with as little rise and fall in the trot as can be managed, so as not to throw the horse out of his stride, and yet enough to ease him in it. Above all, care must be taken that while urging him to his utmost he is not urged too far, as in that case great loss of ground is sustained by the break. Weight is of some importance in match-trotting, but a moderately heavy man who can hold his horse down to a trot is better than a "feather" who allows him to break continually. Mr. Daniell remarks: "In 1800, Robson's brown mare, Phenomena, attracted considerable attention according to Mr. Lawrence, by trotting 17 miles in 56 minutes, and afterwards in 53 minutes; when her owner offered to match her to perform 19½ miles within the hour; but the challenge was not accepted. These were, doubtless, extraordinary performances; but it was not considered, either by the public or by the trotting-jockeys themselves, how much was to be allowed in the estimation on account of the light weight she carried—namely, a 'feather,' *being ridden by a lad belonging to the racing stables, weighing about 5st.* She had not more speed with a 'feather,' probably not so much, as former capital horses carrying 12st. and upwards, several of which would in all probability have performed, with comparative ease, as much in an hour as she did; or even perhaps have actually accomplished the *ne plus ultra* of trotting 20 miles in one hour. Formerly it was a maxim in trotting races, that weight did not form a considerable object, and that a rider of light weight was not calculated for the purpose, whence the matches were always made with catch-weights, and very often a heavy one chosen in preference, as was the case in Archer's match, in which he carried nearly 12st."

Sect. 4.—The Course.

The Trotting-Match Course is generally a tolerably wide, level, and even road, without loose stones or other impediments. It is seldom free from the disadvantages of steep hills or broken stones for more than a few miles, and for this reason, in most matches of more than four or five miles, it is provided that the race shall come off by trotting a certain distance, say five miles out and in as often as will make up the whole.

Sect. 5.—Laws.

The only Laws relating to match-trotting are the following:—There shall be an umpire appointed on each side, with a referee; also a timekeeper for each party with stop-watches. The umpires start the horse, and stop their watches at the same moment, having previously set them exactly with the timekeepers, who have only to stop theirs at the moment of passing the winning-post, when the difference between the two shows the time actually engaged in the match. In harness, if a horse breaks, the opposite umpire cries "back," and the horse is obliged to be stopped, and to back the wheels, of which operation ever so little is enough; after which he may start afresh. In the saddle, if the horse breaks, he must turn round at the order of the umpire, and if his rider refuses he forfeits the match. All other points are embraced in the conditions, which vary with almost every race.

Sect. 6.—Performances.

In England, previous to the introduction of the American trotter, the utmost speed attained was a few seconds under three minutes per single mile. Sixteen miles within the hour were also the limits

of the horse's powers of trotting, with the heavy weight of 12st. up however. In November, 1810, Mr. Fielder's horse trotted 10 miles in 30 minutes 10 seconds, according to the papers of the day; but there is great doubt of the correctness of the time, though the performance of Robson's mare, already alluded to, is nearly as good; and her owner's offer, if accepted and carried out successfully, would have exceeded it on account of the double distance. The Americans in this country have never quite come up to their home feats; but Mr. Osbaldestone's Rattler completed 5 miles in 2 seconds under 14 minutes, being at the rate of 2 minutes 47 3-5ths seconds per mile, which certainly is a wonderful pace, and if it could be kept up would complete more than 21 miles per hour. This horse was subsequently killed by over-driving in a match. It will be seen, however, by a reference to the first section of this chapter, that these feats have been exceeded in modern days on the American turf, where the trotters are without doubt unrivalled.

Sect. 7.—Training.

The Preparation for these matches varies according to their length; if the distance is very short there is nothing gained by too long a time being bestowed upon it, and if the horse is in ordinary stable condition, a fortnight or three weeks will amply suffice. Walking exercise will be required to the usual extent; and the distance to be trotted should be gone over every day *on ground which will not shake the joints*, unless the match is made to trot more than 8 or 10 miles. Nothing does so much harm as the constant rattling over hard roads, which causes a soreness of the joints and a tenderness of the feet highly inimical to fast pace. Turf, however, is seldom suited to these horses, and they cannot often be made to trot at their best rate over this kind of ground; hence it neither suits as a course nor as a training-ground, except for walking exercise; and the trotter must be practised and trained over the road; but at the same time the sides, which are softer than the middle, answer all good purposes without any of the bad. If the horse is too lusty he must sweat, as in ordinary training; and it is better to sweat him on the gallop than the trot, because the weight of clothes has a tendency to reduce the pace. Some horses, however, can trot faster than they can gallop, and with them it would be absurd to attempt to sweat them with the slower pace in preference to the faster. Towards the last ten days the horse should be made to do his best; and if the match is against another, and not against time, he must be used to doing his task in company, or he will be so hot when he is actually engaged in the match that he will be sure to break. If the distance is a long one, a preparation of two months may be necessary, with at least four hours' walking exercise per day, and a long steady trot of about 8 or 10 miles in addition. This will be found sufficient to bring any horse up to the mark, and is better than overdoing the thing. For these long distances most horses require a few sweats, as they should carry no superfluous flesh; yet at the same time they may easily be drawn too fine, and made weak instead of stronger by too much sweating. All this, however, as in the training of the race-horse, must vary with each animal, and no rule for all can be laid down.

Sect. 8.—Match-Carts and Harness.

The Carts, Harness, &c., for these feats are very light; some of the former, with five-foot wheels, being little over 100lb. A breast-strap with these is found to answer better than a collar, from its confining the shoulders less. The American carts far excel the English in all points, and in their lightest pattern the driver actually sits partly by the side of the horse.

PART II.

HORSE-RACING.

BOOK V.—THE PREPARATION OF THE RIDER.

TRAINING FOR RIDING is required only where, firstly, a very large-framed man is anxious to reduce his weight within such bounds as are compatible with the powers of a hunter to carry him up to hounds; and, secondly, when for racing purposes weight is to be reduced. In both cases it is only necessary that there should be no *loss* of power, and in both the plan may be nearly the same, though it is seldom that the amateur sportsman will go to the extreme pains and mortifications which the professional jockey is often obliged to submit to. It will be readily allowed that here the objects to be attained differ materially from those contemplated in training for rowing or pedestrianism, where the strength must be not only husbanded, but increased as much as possible, and in which purgation, sweating, and starving, must be used only so far as is consistent with the preservation of full health. In training for riding, on the contrary, if the ordinary strength is only husbanded, it need not be increased, though to ride a four-mile gallop or steeplechase with a pulling horse is no slight effort; still, however, a strong man may get off a great deal of weight by the above means, and yet be capable of holding his horse well together through a steeplechase, or twenty minutes' burst across country with foxhounds. But he must be a thorough sportsman at heart to do this, since the denials which he must submit to are by no means trivial, and his diet must be as spare and hard as the quarter-rations at Sebastopol. Still I have more than once known the love of sport induce a man, who would in full health have ridden more than 16st., by the aid of a 10lb. saddle, go to the meet not more than 13st. 7lb. This is the triumph of sportsmanlike feeling over the lusts of the flesh, and such men are pretty sure to be in a good place, let the pace and country be as severe as they may. They also have their reward, for they enjoy the full difference between seeing hounds do their work, without greatly distressing their horses, and pounding along a roadway, or following in the rear of a field of lighter weights, without either the scientific enjoyment of the view of the hounds, or the excitement resulting from the mere contest to be first. It must be recollected, however, that for hunting the weight must be reduced during the whole of the winter months, and consequently all unnatural purgatives and sweatings are out of the question, since they would injure the constitution if continued for so long a time, to an extent which would be wholly disproportioned to the object for which they are resorted to. Hence I should advise that for this purpose purgatives should not be resorted to more than once in ten days, or once a week at the most, since their effect, if frequently repeated, is to weaken the stomach and bowels, and in all probability to shorten life. Excessive sweatings are also calculated to injure the constitution, and hence they also should be discarded by the ardent sportsman; but his best plan is to make up his mind to hunt three days a week, and shoot the other three, by way of a *moderate* sweat. This plan, however, is wholly useless, without a rigid guard is kept over the victualling department; and I know few tasks more arduous than this. The love of sport is great in the breast of most Englishmen, as well as their neighbours, the Irish and Scotch; but in all three the love of a good dinner after a hard day's shooting is, as far as my experience goes, and as a rule, still stronger. But if this is indulged in there must be a farewell to the front rank in the field, for one good dinner will upset the good effects of a whole week's starvation; indeed, it is only by long habits of self-denial that the stomach is enabled to bear the degree of deprivation from food which is necessary for the purpose. Now, suppose a man usually walking 16 st. wants to get off 2 st., what must he sacrifice to do this? The following I believe to be about the amount of starvation necessary for a strong hearty man, *together with*

three days' hunting and three days' hard shooting. This last clause is important in estimating the amount of abstemiousness required, because it is manifest that, with this amount of exercise a man will lose weight upon a diet which, in a state of idleness, would be sufficient perhaps even to increase it. Firstly, it is absolutely necessary that the meals should be rigidly restricted to two daily—breakfast and dinner. Let no biscuit even tempt the poor unfortunate to indulge his craving at the covert-side, or at luncheon-time, after bringing to bag his 15 or 20 brace of birds. Such an indulgence would restore, and more than restore, the loss occasioned by the day's work; and the same may be said of wine or spirits and water at supper-time. In fact, as I said before, nothing but water must pass the lips except at breakfast and dinner; and the only remedy for the pangs of hunger is the Indian one, afforded by tightening the belt, if worn, or, if not, by tying a handkerchief tightly round the waist. For breakfast, in this case, the most bulky and least nutritive food should be selected; and for this purpose perhaps potatoes answer as well or better than any other article, if they agree well with the individual's stomach. About this point there is seldom much trouble, as a stomach treated in this way will generally digest everything presented to it. If potatoes are used, about six or eight ounces are quite the outside allowance, and they had better be eaten plain boiled, with a little salt. Next to potatoes coarse bran bread is the best; or, if this is disliked, common household bread may be toasted and sopped in weak tea, which is the best liquid for this meal, or its place may be supplied with coffee; this, however, is not quite so good as tea for the purpose; but, as I have recommended above, it must be very weak, as strong tea has the power of retarding the waste of the system; and a small quantity of food with tea will go farther than a larger quantity taken with any other liquid except coffee, which resembles tea in this respect. Four ounces of bread are more than equal to eight ounces of potatoes, and yet do not satisfy the hunger *for the time* nearly so well. It is a question whether in six hours the stomach would not require a second meal more imperatively after the potatoes than after the bread; but there is a satisfaction in having a tolerable bellyfull, even if the feeling is a transient one. No meat for this meal, or butter, or cream, or milk should be indulged in; but plain potatoes or bread, with weak tea, sugarless and without milk, must be the wretched fare. I have known a basin of water-arrowroot used with advantage, very slightly sweetened with white sugar, and taken with a few thin slices of dry toast. There is, however, so little stay in this that walking exercise can scarcely be kept up upon it, but for the hunting morning it may do well enough. For dinner, from four to six ounces of meat of any kind must suffice; and for vegetables, nothing answers better than turnips and potatoes; not together, however, extending beyond the weight of six, or, at most, eight ounces, of which the turnips ought to comprise more than the half. If soup or fish is taken it must be in the place of the above quantity of meat, and not in addition to it. No beverage stronger than water should be taken at dinner, and only such a small quantity of wine afterwards as, from long habit, the constitution imperatively demands. Such is the diet which, from my experience, I believe will be required to get off, and keep down, 2st. of good hard solid flesh. A much more lenient one will reduce a very fat man, who has got into his unwieldy state from overfeeding or idleness; but the case which I have been endeavouring to meet is the one of a strong healthy man in good work, and feeding heartily, who wants to reduce himself to this extent. If, therefore, such a man is sufficiently fond of foxhounds to go through such an ordeal as the above, I honour his love of sport, and wish him success; but let no man think that less disagreeable means will answer his purpose, for he may be sure that no less stringent diet will sufficiently reduce him and that if he has recourse to purgatives and sweatings, they will soon take away all *animus* for sport, as well as that bodily power which enables the mind to enjoy it.

TRAINING FOR AMATEUR RACES.—For the professional jockey I scarcely think that any directions which I can give are at all wanted, or likely to be useful, since training is a part of the business of his life; and he not only has the ordinary rules of the craft to which he belongs, but he soon finds by experience what best suits his own particular case. There are, however, many gentlemen-jocks who want, occasionally, to get off weight, and to these perhaps a few words may not be misapplied. It must be recollected that for this purpose, unlike the foxhunter, the weight is only wanted off by a particular day; and, therefore, all the means available for its reduction may be accumulated without any permanent injury

to the constitution. It is a well known fact that a man is more weakened by a leech applied daily for sixteen days, than by sixteen leeches applied on one day; and the same principle holds good, though in a still stronger degree, with regard to purgatives and sweatings. But to return to the subject—viz., the reduction of, say two stone in ten days. This is the outside weight which is often wanted to be got off, and more than this will weaken the strength too much, though, of course, much must depend upon the state of the individual. It will at once be clear that it is easier to get two stone off a sixteen stone man than off a man of seven or eight stone; in the one case it is only one-eighth of his weight, in the other it is a quarter. But, supposing we have to deal with a man who wishes to ride twelve stone—which is a common weight for amateur riders—and that he walks, ten days before the race, thirteen stone seven pounds, here, with a seven pound saddle, two stone must be reduced, which will give nearly three pounds a day for ten days. I should advise him to begin by ascertaining that his liver is acting properly; for if not, it is useless to attempt the task, as he will almost to a certainty catch cold if compelled to resort to mercurials during his preparation, and without them he will as surely upset his stomach and strength, if suffering from a torpid liver. But supposing the liver acting well, and the health good, let him put on his sweaters, including a flannel pair of drawers, two pair of trowsers, a flannel jersey, a good thick worsted comforter, a warm cap, and a couple of coats; with these on, let him take a smart four or six-mile walk, and then, after returning, let him get under a feather bed, and sweat for at least an hour. Then let him get up and sponge himself with cold water, after which he may clothe himself quickly and rather more warmly than usual, and partake of his moderate breakfast, composed as already indicated under the last head. After this meal he may amuse himself by any occupation not of a very violent nature, or he may take a gentle walk till dinner, about four or five o'clock, which also must not exceed the quantity already laid down. On the following morning he may take a draught composed of four, six, or eight drachms of Epsom salts, with from five to twelve grains of jalap, and a teaspoonful each of tincture and sweet essence of senna, dissolved in a little hot water. This will purge him well, and will get off nearly as much as the sweat; and by alternately using these two remedies, the three pounds per day will be steadily reduced. Of course he will go to scale almost daily, and will be guided by the weight lost, as to the amount of food to be taken, and as to the length of the sweats and the quantity of clothing to be put on, also as to the strength of the opening draught. If these directions are followed, the weight may and ought to be reduced on the day before the race about two pounds under the intended riding weight; for on the day itself it is not desirable, *if it can be avoided*, to sweat or purge, on account of the necessity for preserving the nerve and strength which are required in a race, especially the former. It will be found that, with all practical starvation, without sweating or purging, about two pounds will be gained between the last sweat and the time of the race, which period may be calculated on the average at thirty hours—and for this allowance must be made.

PART II.

HORSE-RACING.

BOOK VI.—THE PRINCIPLES AND PRACTICE OF BREEDING FOR THE TURF AND FOR GENERAL RACING PURPOSES.

CHAP. I.
THEORY OF GENERATION, AND GENERAL PRINCIPLES OF BREEDING.

SECT. 1—THEORY OF GENERATION.

BEFORE proceeding to enlarge upon the practical management of the breeding-stud, it will be well to ascertain what are the known laws of generation in the higher animals. I have already alluded to these, though very cursorily, in the chapter on the Breeding of the Greyhound; but as that of the horse is far more important in a national point of view, they are here given more at length. They are as follows:—

1.—The union of the sexes is, in all the higher animals, necessary for reproduction; the male and female each taking their respective share.

2.—The office of the male is to secrete the *semen* in the *testes*, and emit it into the *uterus* of the female, where it comes in contact with the *ovum* of the female—which remains sterile without it.

3.—The female forms the *ovum* in the *ovary*, and at regular times, varying in different animals, this descends into the *uterus*, for the purpose of fructification, on receiving the stimulus and addition of the *sperm-cell* of the semen.

4.—THE SEMEN consists of two portions—the *spermatozoa*, which have an automatic power of moving from place to place, by which quality it is believed that the semen is carried to the ovum; and the *sperm-cells*, which are intended to co-operate with the *germ-cell* of the ovum in forming the embryo.

5.—THE OVUM consists of the *germ-cell*, intended to form part of the embryo—and of the *yolk*, which nourishes both, until the vessels of the mother take upon themselves the task; or, in oviparous animals, till hatching takes place, and external food is to be obtained. The ovum is carried down by the contractile power of the fallopian tubes from the ovary to the uterus, and hence it does not require automatic particles like the semen.

6.—THE EMBRYO, or young animal, is the result of the contact of the *semen* with the *ovum*, immediately after which the *sperm-cell* of the former is absorbed into the *germ-cell* of the latter. Upon this a tendency to increase, or "grow" is established and supported at first, by the nutriment contained in the yolk of the ovum, until the embryo has attached itself to the walls of the uterus, from which it afterwards absorbs its nourishment by the intervention of the *placenta*.

7.—AS THE MALE AND FEMALE each furnish their quota to the formation of the embryo, it is reasonable to expect that each shall be represented in it, which is found to be the case in nature; but as the food of the embryo entirely depends upon the mother, it may be expected that the health of the offspring and its constitutional powers will be more in accordance with her state than with that of the father; yet since the sire furnishes one-half of the original germ, it is not surprising that in externals and general character there is retained a *fac-simile*, to a certain extent of him.

8.—THE OVUM OF MAMMALIA differs from that of birds chiefly in the greater size of the yolk of the latter, because in them this body is intended to support the growth of the embryo from the time of the full formation of the egg until the period of hatching. On the other hand, in *mammalia* the placenta conveys nourishment from the internal surface of the uterus to the embryo during the whole time which elapses between the entrance of the ovum into the uterus and its birth. This period embraces nearly the whole of the interval between conception and birth, and is called *utero-gestation*.

9.—IN ALL THE MAMMALIA THERE IS A PERIODICAL "HEAT," marked by certain discharges in the female, and sometimes by other remarkable symptoms in the male.

In the former it is accompanied in all healthy subjects by the descent of an ovum or ova into the uterus; and in both there is a strong desire for sexual intercourse, which never takes place at other times in them.

10.—THE SEMEN retains its fructifying power for some days, if it is contained within the walls of the uterus or vagina, but soon ceases to be fruitful if kept in any other vessel. Hence, although the latter part of the time of heat is the best for the union of the sexes, because then the ovum is ready for the contact with the semen, yet if the semen reaches the uterus first, it will still cause a fruitful impregnation, because it remains there uninjured until the descent of the ovum.

11.—THE INFLUENCE OF THE MALE upon the embryo is partly dependent upon the fact, that he furnishes a portion of its substance in the shape of the sperm-cell, but also in great measure upon the effect exerted upon the nervous system of the mother by him. Hence, the preponderance of one or other of the parents will in great measure depend upon the greater or less strength of nervous system in each. No general law is known by which this can be measured, nor is anything known of the laws which regulate the temperament, bodily or mental power, colour, or conformation of the resulting offspring.

12. — ACQUIRED QUALITIES are transmitted, whether they belong to the sire or dam, and also both bodily and mental. As bad qualities are quite as easily transmitted as good ones, if not more so, it is necessary to take care that in selecting a male to improve the stock he is free from bad points as well as furnished with good ones. It is known by experience that the good or bad points of the progenitors of the sire or dam are almost as likely to appear again in the offspring as those of the immediate parents in whom they are dormant. Hence, in breeding the rule is, that like produces like, *or the likeness of some ancestor.*

13.—THE PURER OR LESS MIXED the breed, the more likely is it to be transmitted unaltered to the offspring. Hence, whichever parent is of the purest blood will be generally more represented in the offspring; but as the male is usually more carefully selected, and of purer blood than the female, it generally follows that he exerts more influence than she does; the reverse being the case when she is of more unmixed blood than the sire.

14.—BREEDING "IN-AND-IN" is injurious to mankind, and has always been forbidden by the Divine law, as well as by most human lawgivers. On the other hand, it prevails extensively in a state of nature with all gregarious animals, among whom the strongest male retains his daughters and granddaughters until deprived of his harem by younger and stronger rivals. Hence, in those of our domestic animals which are naturally gregarious, it is reasonable to conclude that breeding "in-and-in" is not prejudicial, because it is in conformity with their natural instincts, if not carried farther by art than nature teaches by her example. Now, in nature we find about two consecutive crosses of the same blood is the usual extent to which it is carried, as the life of the animal is the limit; and it is a remarkable fact that in practice a conclusion has been arrived at which exactly coincides with these natural laws. "Once in and once out," is the rule for breeding given by Mr. Smith in his work on the breeding for the turf; but twice in will be found to be more in accordance with the practice of our most successful breeders.

15.—The influence of the first impregnation seems to extend to the subsequent ones: this has been proved by several experiments, and is especially marked in the equine genus. In the series of examples preserved in the Museum of the College of Surgeons, the markings of the male quagga, when united with the ordinary mare, are continued clearly for three generations beyond the one in which the quagga was the actual sire; and they are so clear as to leave the question settled without a doubt.

16.—When some of the elements of which an individual sire is composed are in accordance with others making up those of the dam, they coalesce in such a kindred way as to make what is called "a hit." On the other hand, when they are too incongruous, an animal is the result wholly unfitted for the task he is intended to perform.

SECT. 2.—IN-AND-IN BREEDING.

By a careful examination of the pedigrees of our most remarkable horses, of which I have inserted a series of tables at page 320 and following pages, it will be seen that in all cases there is some in-breeding; and in the greater part of the most successful a very considerable infusion of it. It is difficult to say what is not to be considered as such, or when to make it commence, for in all cases there is more or less relationship between the sire and dam of every thoroughbred horse; at least I cannot find a single exception — thus, for instance, examining

the table of Harkaway, at page 325, which is the result of one of the most direct crosses in the Stud-book, we find that his sire and dam are both descended from Eclipse and Herod through three or four streams on each side, as will be seen on referring to the right-hand column. The same will apply to Alarm, who also is the result of as direct a cross as is often seen; and, in fact, whatever pedigree is analysed the result will be that the bulk of it in the fifth or sixth remove is made up of Eclipse, Herod, and Matchem, or Regulus blood. It is not that a horse goes back to one of these stallions in one line only, but through six or seven, and sometimes through nearly all his progenitors. Hence, it may fairly be assumed that all the horses of the present day are related, either closely or distantly; but when we speak of in-and-in-breeding we mean a nearer relationship than this, such as a first cousin, or at the most, one in the second or third degree. But I believe it will be found that even this amount of relationship is desirable, if not carried too far, and that a vast number of our best modern horses have been bred in this way.

EXAMPLES OF SUCCESS FROM THIS PLAN.—The early racehorses of the 18th century were notoriously in-bred, of which Mr. Smith, in his book on breeding for the turf, gives us numerous convincing examples. The two Childers, Eclipse, Ranthos, Whiskey, Anvil, Boudrow, and, in fact, almost all the horses of that day, were much in-bred; sometimes, as in the case of the dam of Leedes, to an incestuous degree. In the above-mentioned treatise the breeder is advised to breed once in, at page 47; and it appears to me that more valuable advice was never offered, except that I think it is only carried half as far as it ought to be. But, in consequence of the injurious effects of the system of in-breeding in the human family, a prejudice has been raised against it; and the result has been that in trying the opposite plan great mischief has often ensued. I have already shown that in nature in-breeding prevails very generally among gregarious animals like the horse and dog, and I will now endeavour to illustrate Mr. Smith's argument by modern examples. It may be remembered that he instances the Herod and Eclipse blood as having "hit" in a great number of horses, such as Whiskey, Waxy, Coriander, Precipitate, Calomel, Overton, Gohanna, and Beninbrough, which were out of Herod mares, by sons of Eclipse. But it must also be known that Eclipse and Herod are both descended from the Darley Arabian, the one on the sire's side, and the other on that of the dam; and that from this circumstance it is not surprising that a "hit" should follow, if in-breeding is advantageous. There are two points of view in which in-breeding should be viewed; first, as producing successful runners; and secondly, good stallions and brood mares; but, though it seems to answer in both cases, yet it is in the latter point that I think it is chiefly to be recommended.

AMONG THE HORSES OF THE PRESENT CENTURY the following remarkable instances will illustrate this position, to which great numbers of less illustrious names may be added:—

Example 1.—In 1827 Matilda won the St. Leger very cleverly, and proved herself a superior mare by beating a large field of good horses. She was out of Juliana, who was by Gohanna (son of Mercury and a Herod mare), out of Platina (by Mercury, out of another daughter of Herod). Matilda's dam, therefore, was the produce of BROTHER AND SISTER.

Example 2.—Cotherstone (winner of the Derby), and Mowerina (dam of West Australian), are the produce of FIRST COUSINS. (See Table 28.)

Example 3.—Touchstone and Verbena, sire and dam of Ithuriel, were SECOND COUSINS, taking from Selim and his sister. (See Table 88.)

Example 4.—Priam is an example of success by in-breeding, after a series of failures in crossing. Cressida, his dam, was put to Walton, Haphazard, Orville, Wildfire, Woful, Phantom, Scud, Partisan, Little John, and Waterloo, without success. At last, being served by her cousin Emilius (a son of Orville, who had previously failed, not being related to her), she produced Priam. This horse and Plenipotentiary were both sons of Emilius, the latter being the result of as direct a cross as is often seen; but the former was in-bred to Whiskey, who was sire of his dam, Cressida, and also great grandsire of Emilius. Now the above-mentioned two horses were both extraordinary runners; but whilst Plenipotentiary has scarcely had an average success as a stallion, Priam, considering the short time he remained with us, has achieved an imperishable fame. (See Tables 17 and 26.)

Example 5.—Bay Middleton was the produce of SECOND COUSINS, descended from Williamson's Ditto and Walton, own brothers, whilst Andover, his son, is the second time in with the Whalebone blood,

as follows:—Web, the great-grandam of Bay Middleton, is sister to both Whalebone and Whisker, the grandsire and great-grandsire of Soldier's Joy, dam of Andover. He, therefore, is also the son of cousins, uniting the blood of Selim, on his sire's side, with that of Rubens, brother to Selim, on that of his dam; and thus he is not only in-bred, but the produce of an in-bred sire and dam. (See Table 27.)

Example 6.—Stockwell and Rataplan are just as remarkable, being descended in the same degree from Whalebone, Whisker, and Web, the very same two brothers and sister as in Andover's case, with an infusion also of Selim blood, through Glencoe, sire of Pocahontas. (See Table 29.)

Example 7.—Orlando has a still stronger infusion of Selim blood, his dam being a granddaughter of that horse, and great-granddaughter of Castrel (brother to Selim), whilst Touchstone, his sire, is a great-grandson of the last-named horse. Here, then, in-breeding has been carried out to its fullest extent, Vulture having been the produce of FIRST COUSINS, and being put to a SECOND COUSIN derived through the same strain; and the result has been, as is well known, the most remarkable stallion of the day. (See Table 24.)

Example 8.—An instance of the comparative value of two stallions, one more in-bred than the other, may be seen in Van Tromp and Flying Dutchman, both out of Barbelle. These two horses are both in-bred to Buzzard; but Flying Dutchman is also descended from Selim, son of Buzzard on the side of both dam and sire, Selim being great-grandsire of Barbelle and grandsire of Bay Middleton. Now, it will not be questioned at present, that Van Tromp is comparatively a failure, and that the Flying Dutchman, as far as his stock have been tried, is eminently successful as a stock-getter; and such might have been expected, because his dam unites the stout blood of Catton and Orville with that of Selim, which last strain, taking with it the above valuable qualities, hits with the same Selim blood in Bay Middleton. (See Table 22.)

Example 9.—Weathergage is another instance of success in this mode of breeding, his sire and dam both taking from Muley and Tramp, and Miss Letty, his grandam, being by Priam, grandson of Orville, sire of Muley, out of a daughter of that horse—and consequently herself much in-bred. Weatherbit, the sire of Weathergage, also reunites the blood of t he two sisters, Eleanor and Cressida. (See Table 26.)

Example 10.—I have already adduced some examples of the success of the union of the Whalebone with the Selim blood, and I may, in addition, remark on the case of Pyrrhus I., who is by Epirus, a grandson of Selim, out of Fortress, a great-granddaughter of Rubens, brother to Selim; and also in-bred to Whalebone, his dam being by Defence, the son, out of Jewess, the granddaughter of that horse. (See Table 99.)

Example 11.—Safeguard is bred almost exactly in the same way, but a still closer degree of relationship exists between his sire and dam, he being by Defence (son of Defiance, by Rubens), out of a mare by Selim, brother to Rubens, which same mare is also descended from the Wellesley Grey Arabian. The strongest case of success from close in-breeding with which I am acquainted is in a son of the above horse, the steeplechaser Vainhope, who was by Safeguard, a grandson of Selim, and great-grandson of Rubens, out of a mare by Strephon, who was also by Rubens. Now his stoutness and soundness were too well known to need further comment; and his case alone is a strong argument in favour of the breeding-in a second time.

Example 12.—Almost as strong a case has lately appeared in the Knight of St. George, who was by Birdcatcher, son of Sir Hercules, out of a granddaughter of that horse, and with a still further infusion of Waxy blood in her grandam. These two last examples are the strongest modern instances of close in-breeding with which I am acquainted; but as they were neither of them quite first-class, they do not so much strengthen the argument as some of the previously instanced horses. Nevertheless, being as close as they are, they show that the practice is not attended by a bad result in these particular cases.

Example 13.—The Saddler, who is remarkable for the stoutness, if not for the speed of his stock, was the produce of SECOND COUSINS, being descended on both sides of his pedigree from Waxy.

Example 14.—Chatham, as good a horse as ever ran, was by the Colonel, son of Whisker, out of Hester, by Camel, son of Whalebone, brother to Whisker; and he is therefore the produce of FIRST COUSINS. Both these horses (Examples 13 and 14) unite the Waxy and Buzzard blood.

Example 15.—Sweetmeat is valuable as a stallion, not only because he is in-bred to Waxy, but because he also possesses so much of the celebrated Prunella blood, he being descended from that mare through three

several lines—viz., through Parasol, Moses, and Waxy Pope.

Example 16.—Grace Darling (dam of the Hero, by Chesterfield) was the produce of SECOND COUSINS, both sire and dam being descended from Waxy. It is therefore not to be wondered at that she produced so stout a horse as the Hero, combining the Waxy, Priam, Octavian, and Rubens blood. His sire and dam were also third cousins through Cœlia as well.

Example 17.—Wild Dayrell, speedy as he is, may trace his wonderful powers to a reunion of the blood of Velocipede, which exists on the side of both sire and dam, and also to his descent from Selim and Rubens, own brothers, who are respectively his paternal and maternal great-grandsires.

Example 18.—Cowl, by Bay Middleton, out of Crucifix, is the result of the union of SECOND COUSINS, the sire being descended from Julia, and the dam from Cressida, both of them sisters to the celebrated mare Eleanor, the winner of the Derby and Oaks. There is also another cross of Whiskey blood from Emilius, so that Cowl is in-bred to Whiskey twice. It would be a curious experiment to put him to some descendant of Muley—such as Alice Hawthorn or Virginia, and thus unite the *three* sisters in one, making a third infusion of this blood with an intervening out-cross. It should be borne in mind that Young Giantess, the ancestress of all these mares, and also of Sorcerer, was the produce of second cousins, and each of these second cousins was also the produce of second cousins, both of their sires and dams having Godolphin as their great-grandsire.

Example 19.—Asteroid, undoubtedly one of our best modern horses, has three lines of Whalebone and Whisker blood (own brothers), and the same remark applies to Marquis, each being by Stockwell out of a Touchstone mare.

Example 20.—St. Albans, another son of Stockwell, is out of Bribery, a granddaughter of Pasquerade, sister to Touchstone, so that the nick is in her case very nearly the same as in those of Asteroid and Marquis, and the in-breeding also—indeed, the general success of Stockwell with Touchstone mares has been very remarkable, though of course not often to the extent of getting such horses as the above.

Example 21.—Argonaut's dam, Aphrodite, is a granddaughter of Sir Hercules, so that here a still closer case of in-breeding exists, the above horse being another Stockwell.

Example 22.—Tim Whiffler (Table 37) has three lines of Waxy, the son of Whalebone and Miss Barnet.

THE FOLLOWING BROOD MARES may be attentively examined, and their produce by near relations compared with that by horses only distantly connected, which I have shown all horses are in the present day. This is a still stronger proof of the advantage of in-breeding than the success of solitary horses as runners.

Example 1.—One of the most successful brood mares of late years was Decoy, who bred a long list of racehorses to Touchstone and Pantaloon; now the former of these horses was much more successful generally in getting racing stock than the latter, and yet in this instance was beaten by him, as proved by comparing Drone, Sleight-of-hand, Van Amburgh, and Legerdemain, with Phryne, Thais, Falstaff, and Flatcatcher. Now, why was this? Simply because Touchstone was a more distant relation, and only one line in each was similar—namely, the great-grandsire, Waxy; but in the case of Pantaloon and Decoy there was a cousinship in the second degree, each having Peruvian as a grandfather; and not only that, but Decoy herself was in-bred to Sir Peter, who was grandsire to both her dam and sire, so that Sleight-of-hand and his brother and sister were *twice* in-bred to him. Now, as the Pantaloon and Decoy blood hit, and their produce not only were fast but stout, there was good reason for returning to Pantaloon after the out-cross with Touchstone, which produced Phryne; this mare, when put to him, was successively the dam of Elthiron, Windhound, Miserrima, Hobbie Noble, the Reiver, and Rambling Katie; thus still farther proving the value of in-breeding, more especially with an intervening out-cross, as in this case.

Example 2.—Cyprian, again, is an example of the production of a lot of second-class horses, by crossing her with various sires not related in blood—as, for instance, Jereed, Velocipede, Voltaire, and Hetman Platoff; but when put to Birdcatcher, a great-great-grandson of Prunella, and being herself a granddaughter of the same celebrated mare, she threw a superior animal, in the shape of Songstress.

Example 3.—Virginia (see table 99) bred a series of middling horses, by Voltaire, Hetman Platoff, Emilius, and Birdcatcher, in all of which there was a single point in which she was related, but in all very distantly, neither was the strain, except that of Orville, first-rate; but when put to Pyrrhus I. she produced a Virago, who, as

long as she remained sound, was very far the best of her year. On examining and comparing the pedigrees of the sire and dam, it will be seen that Selim and Rubens (brothers) occur on each side once, and Whalebone, whose name is seen twice in the table of Pyrrhus I., is represented in that of Virginia by Woful, his brother, besides which Young Giantess occurs in each table. These are over and above the Hambletonian relationship, which is the same in this case as in that of the result of the cross with Voltaire and Hetman Platoff.

Example 4.—In the year 1855, after a series of failures, Alice Hawthorn produced on the turf a racehorse in the shape of Oulston; now if the pedigrees of his sire and dam are examined, it will be seen that Melbourne, the sire, is a grandson of Cervantes, whilst Alice Hawthorn is also a great grand-daughter of the same horse—Cervantes being a grandson of Eclipse and Herod, from which latter horse he also receives two other infusions, and Alice being descended from Eclipse, through Orville, Dick Andrews, Mandane, and Tramp. A very similar case of in-breeding with the same strains occurred in Sir Tatton Sykes, who was the produce of a mare, great-granddaughter of Comus, and also great-great-granddaughter of Cervantes. She was put to Melbourne, a grandson of both these horses, producing that extraordinary horse which I am now adducing as an instance of success in this mode of breeding. The pedigree of the dam of Sir Tatton Sykes should be carefully analysed, as exhibiting a curious reunion of strains. First, Muley is in-bred to Whiskey, he is then crossed with an Election mare, producing Margrave; the dam of Muley being Eleanor, a daughter of Y. Giantess. Next, Margrave, an out-cross, is put to Patty Primrose, containing in her pedigree two infusions of Young Giantess through Sorcerer, and one of Cervantes; and, finally, the Margrave mare, the result of one in-breeding, and one out-cross on the side of both her sire and dam, is put to Melbourne, composed of the blood of all three; being descended from Sorcerer, a Son of Young Giantess, and also from Cervantes.

If the whole of the pedigrees to which I have here alluded are attentively examined, the breeder can have no hesitation in coming to the conclusion that in-breeding, carried out once, or even twice, is not only not a bad practice, but is likely to be attended with good results. Let him ask what horses have been the most remarkable of late years as stallions, and with very few exceptions he will find they were considerably in-bred. It has been remarked, that the Touchstone and Defence blood almost always hits with the Selim; but it is forgotten that the one was already crossed with that horse, and the other with his brother Rubens. On the other hand, the Whisker blood in the Colonel has not succeeded so well, it being made up of much crossed and more distantly related particles, and therefore not hitting with the Selim and Castrel blood like his cousins, Touchstone and Defence. It has, however, partially succeeded when in-bred to the Waxy and Buzzard blood, as in Chatham and Fugleman, who both reunite these three strains. The same applies to Coronation, who unites the Whalebone blood in Sir Hercules with that of Rubens in Ruby; but as Waxy and Buzzard, the respective ancestors of all these horses, were both grandsons of Herod, and great-grandsons of Snap, it only strengthens the argument in favour of in-breeding. This conclusion is in accordance with the 14th and 15th axioms which embody the state of our present knowledge of the theory of generation; and if they are examined, they will be seen to bear upon the present subject, so as to lead one to advise the carrying out of the practice of in-and-in-breeding to the same extent as has been found so successful in the instances which I have given. Purity of blood is intimately connected with the practice, because the nearer it is to one standard the more unmixed it is, and by consequence the more fully it is represented in the produce. Hence, it is doubly needful to take care that this pure blood is of a good kind; because if bad, it will perpetuate its bad qualities just as closely as it would the good, or perhaps still more so.

Sect. 3.—Out-Crossing.

By Crossing the Blood we understand the selection of a sire composed of wholly different blood from that of the dam, or as different as can be obtained of such quality as is suitable to the particular purpose in view. Thus, in breeding race-horses it is found that continuing in the same strain beyond two stages deteriorates the constitutional health, diminishes the bone, and lowers the height; hence, it is important to avoid this evil, and another strain must be selected which shall lead to the same results as were previously in existence, without the above deterioration; and this is called out-crossing, or, more commonly, crossing. The great difficulty is to obtain

this object without destroying that harmony of proportions, and due subordination of one part to another which is necessary for the racehorse, and without which he seldom attains high speed. Almost every individual breed has peculiar characteristics, and so long as the sire and dam are both in possession of them they will continue to reappear in the produce; but if a dam possessing them is put to a horse of a different character, the result is often that the produce is not a medium between the two, but is in its anterior parts like its dam, and in its posterior resembling its sire, or *vice versâ*, than which no more unfortunate result can occur. Thus, we will suppose that a very strong muscular horse is put to a very light racing mare; instead of the produce being moderately stout all over, he will often be very stout and strong behind, and very light and weak before, and as a consequence his hind-quarter will tire his fore-limbs, by giving them more to do than they have the power of accomplishing. This is well seen in Crucifix, who was a very wiry and fast, but light mare, with a fore-quarter hardly capable of doing the work of her own hind-quarter. Now, she has been several times put to Touchstone (a horse remarkable for getting bad-shouldered stock, but with strong muscular propellers), and, with the solitary exception of Surplice, these have been a series of failures. Surplice was also defective in the same way, but still he managed to get along in an awkward style, but some how or other at a great pace. Cowl, on the other hand, was a better galloper, because there was a greater harmony of parts; but he was somewhat deficient in the stout qualities which Touchstone was intended to supply; yet he will prove, I fancy, a better stallion than Surplice, because he is more truly made, and by consequence more likely to perpetuate his own likeness.

EXAMPLES OF OUT-CROSSING.—Harkaway has been alluded to before as a strong case of out-crossing, his sire and dam not being closely related, though still going back to Herod or Eclipse in almost all his lines. He would, however, be considered a decided case of crossing, and he was no doubt a very superior racehorse. As yet, however, he has not done much as a sire, his stock generally being deficient in that essential quality, speed, though stout enough to make good hunters and steeplechasers. Perhaps his best son was Idleboy, in which the Waxy blood in the sire hit with the same strain in Iole, the dam, who was a daughter of Sir Hercules. (See Table 88.)

Example 2.—One of the most remarkable cases of success in crossing, when carried out to a great extent, is seen in Beeswing and her sons Newminster, Nunnykirk, and Old Port. In the mare herself the lines are all distinct, and in her cross with Touchstone they are so likewise for three removes. At that distance there is a great-grandsire of Touchstone, Alexander, who is brother to Xantippe, great-great-grandmother of Beeswing; so that she and Touchstone were third cousins. Whether or not this consanguinity, slight as it was, sufficed to produce this happy result in Newminster and Nunnykirk, must be left an open question; but there can be no doubt that Touchstone succeeded with her, whilst a failure resulted from Sir Hercules, who was still more distantly related, the nearest connexion with him being a fourth cousinship, through Volunteer and Mercury, own brothers. Queen of Trumps has often been adduced as a case of successful out-crossing, but though her great grandsires and great grandams were certainly none of them identical, yet beyond that line there is an extraordinary influx of Herod blood, through Highflyer, Woodpecker, Lavender, Florizel, and Calash, all his sons or daughters. Now, no one can maintain, that it is not very remarkable, when we find such a dash of blood from one superior horse in such an extraordinary animal as Queen of Trumps; neither can it be said that she is composed of materials not related to each other; but at the same time she is fairly to be considered under the ordinary acceptation of the term as a mare bred from a distinct cross. Hers is, however, a very instructive example, as showing that success is sometimes achieved by reuniting, after an interval of several generations, a series of good strains; whether or not her goodness is dependent upon this reunion, or whether it results from the crossing, is only to be decided by comparing a number of cases together, and considering on which side lies the balance of evidence.

Example 3.—West Australian is an exceedingly valuable example of the benefit of a *good* out-cross after in-breeding, and between his sire and dam there was less relationship even than usual.

Example 4.—Teddington, on the contrary, so often adduced for a similar purpose, presents one line of relationship which interferes with the assumption. I have adduced his sire, Orlando, as an instance of successful in-breeding twice through Selim and Castrel, and certainly that strain is not perpetuated in Teddington's dam; but

a little more distantly there occurs in each portion of the table the name of Prunella and her sister, Peppermint, but only so far as to make them fifth cousins. Still it cannot be compared to the case of West Australian, where the cross is much more decided. In both, however, the sire or dam was much in-bred, and this must be taken into the account in all cases.

Example 5.—One of the most thoroughly-crossed pedigrees of the day is that of Kingston, and being such a good horse as he was, his case must be allowed to weigh in favour of this kind of breeding; but, as I before observed, it is not so much in reference to running as to breeding that this plan is to be considered, and as yet he has not been able, for want of time, to show his powers. Where an out-cross is wanted for such blood as that of Touchstone, which has already been used twice in a pedigree, I conceive nothing better than this game horse, who would then, according to this theory, produce the good effect required by a cross, without interfering with the form of the Touchstone mare. On the other hand, where a second in-breeding to Venison or Partisan mares is required by those who are fond of that peculiar blood, he is well calculated to carry out that view, because the other lines are all good.

Example 6.—Voltigeur, again, is another instance of success from a decided cross.

Example 7.—Queen of Trumps may be adduced as a wonderful animal, resulting from a much-crossed pedigree.

Example 8.—Cossack would, likewise, generally be considered a cross, though even in his case the relationship was that of a fourth cousin; but there is no doubt that numerous cases of successful runners may be adduced where there was no relationship between sire and dam nearer than a fifth or sixth cousinship.

Example 9.—The celebrated Blink Bonny is a strong instance of a success in crossing. Still her dam has two lines of Whalebone (if Moses was really by that horse, which he most probably was not, his dam having been considered as stinted to Seymour by many people), she would not be so considered. But, granting the Seymour parentage, she is compounded of lines from Comus, Cervantes, Golumpus, Walton, Emilius, and Whalebone, all very distinct from each other. But her son, Blair Athol, is by Stockwell, containing two lines of Whalebone blood, and here we see the advantage of returning to the same strain after an out-cross

Example 10.—Lord Clifden, as will be seen on referring to the pedigree (table 116), has no in-breed whatever, except very distantly to Golumpus.

Example 11.—Ackworth (table 45) is for five generations free from any positive in-breeding, but in his fifth remove it will be seen that, as usual, the name Whalebone occurs three times, and Selim twice.

Example 12.—Scottish Chief (table 46) is another instance of successful out-crossing.

Example 13.—Macaroni (table 41) has no consanguinity in his ancestry for five generations.

Example 14.—Caractacus, like his sire, Kingston, is a strong example of a cross-bred horse.

Example 15.—Saunterer (table 33) has only the two lines of Whalebone and Whisker in the pedigree of his sire, Irish Birdcatcher.

Example 16.—Gemma Di Vergi (table 35) is a strong case of success in out-crossing.

Sect. 4.—Comparison of In-Bred and Crossed Stallions.

The following List of forty of the most immediately successful stallions of late years shows the proportion of in-bred to crossed horses of this class to be equal. I have omitted such as only became celebrated through their daughters as brood-mares, for instance, Defence, &c.:—

In-Bred Stallions.

1. Priam	11. Sweetmeat
2. Bay Middleton	12. Chatham
3. Melbourne	13. Flying Dutchman
4. Cotherstone	14. Sir Tatton Sykes
5. Pyrrhus I.	15. Chanticleer
6. The Baron	16. Stockwell
7. Orlando	17. Rataplan
8. Ithuriel	18. Flying Dutchman
9. Cowl	19. Lord of the Isles
10. The Saddler	20. Weatherbit

Crossed Stallions.

1. Partisan	11. Alarm
2. Emilius	12. Ion
3. Touchstone	13. Harkaway
4. Birdcatcher	14. Velocipede
5. Sir Hercules	15. Hetman Platoff
6. Voltaire	16. Newminster
7. Plenipotentiary	17. Kingston
8. Pantaloon	18. Voltigeur
9. Lanercost	19. King Tom
10. Venison	20. Oxford

CHAPTER II.

THE BEST MODE OF BREEDING THE HORSE FOR ALL RACING PURPOSES.

SECT. 1.—CHOICE OF BLOOD TO BREED FROM.

The uncertainty of the results from the best concerted plans in breeding for the turf is proverbial among those who are engaged in the undertaking. Nevertheless, it is clear that laws must exist which regulate this as well as every other operation of nature; and, though it may at present be difficult to lay them down with certainty, yet an attempt should be made in order that a foundation may be laid for a future superstructure of sound materials. There are some difficulties which stare us in the face, but which, nevertheless, are much more easily explained than at first sight would appear. Thus, for instance, it is said that when a mare breeds a good colt, and is again put to the same horse, the second is often as worthless as the first is superior; and that, consequently, two and two in breeding do not always make four. Now, there can be no doubt that this is true; but it is necessary to remember that health is an element which makes or mars every horse; and that if the second is not possessed of the same degree of high animal vigour, the result of high health, it is not wonderful when he falls short in performances which are the test of his goodness. But, taking the other side of the question, it is extraordinary that in some cases there have been a series of successes resulting from the union of the same two parents—as in the Whalebone and Whisker example, where there were six most extraordinary horses and mares resulting from the union of Waxy with Penelope; and on the other hand, as remarkable a series of failures when she was put to even such good horses as Walton, Rubens, and Election. Castrel, Selim, and Rubens again are out of the same mare, and all by Buzzard, yet she was put to Calomel, Quiz, Sorcerer, and Election without a single successful result. Again, there are cases where a horse begets racing stock out of all sorts of mares, and thus we find in more recent days Touchstone, a grandson of Whalebone, carrying on his grandfather's fame still further, if possible, and begetting a most extraordinary series of winners; but, be it remembered, with an infusion also of one of the three above-mentioned brothers, Selim, who was his maternal great grandfather. Barbelle, dam of Van Tromp and Flying Dutchman, is another similar case; as is also Fortress, the dam of Old England, and Pyrrhus I. Another remarkable example may be traced in the three sisters by Whiskey, out of Young Giantess—viz., Cressida, Eleanor, and Julia, which produced Priam, Muley, and Phantom by three different sires. The list of similar examples might be extended to a great length, though not always perhaps occupied with such illustrious names as the above; but still sufficiently so to indicate that winning blood runs in families, and by consequence, that it is not all the result of chance. Sometimes this is the case with the brood-mare, as in the above instances, and sometimes with the stallion, as in the case of those which become the celebrities of their day. Moreover, it has been found that certain unions or crosses almost always succeed, while others as invariably fail; and as there must be a reason for this, it is desirable to investigate the matter and endeavour to ascertain the facts connected with these successes and failures. For instance; it has been found that the union of the Touchstone blood with that of Selim or Pantaloon has uniformly succeeded (or "hit," as it is termed); and the example is so remarkable, that it leads one to investigate the pedigrees of all three, when it turns out that the first-named is composed of one-eighth Selim already; and that in putting him to a descendant of that horse, or his brother Castrel, the sire of Pantaloon, it is only reuniting the previously separated particles derived from them. This is *a fact* which will serve to form the basis of an argument, and if supported by similar facts, it would show that in-and-in-breeding to some extent is not prejudicial; but, on the other hand, that it is in all probability absolutely advantageous. At the same time it cannot be disputed that the Waxy and Buzzard blood has almost always hit in its first union, as shown in page 494, and elsewhere; and having succeeded once it always seems to hit again still more successfully; and the only question is how far the in-breeding might be carried without deterioration. Again, reverting to the descendants of Whiskey, who was a grandson of Eclipse, we find them hitting once with the Orville blood in producing Emilius and

Muley; and again, a second time, with Priam as a result, he being also out of a daughter of Whiskey. Liverpool, sire of Lanercost, was also a grandson of Whiskey on his dam's side, his sire, Tramp, taking a direct descent from Eclipse in the same number of removes as Whiskey. But it is only by further investigation, and ascertaining how far these facts occur in a similar way throughout a series of cases, that any conclusion can be formed; and such a series has been given under the section devoted to an examination of the propriety of in-breeding. By universal consent, however, it is now admitted, and common sense would always lead one to believe, that where a series of winners have appeared of any particular strain, it is likely that others will follow; and hence it has been the rule to select horses of families which have been successful on the turf, in the particular line which it is wished still further to succeed in. Thus, if a fleet racer is intended to be bred, the breeder would select blood which has produced winners of the Derby, Oaks, or St. Leger, or, if possible, all three. If a steeplechaser is the object of ambition, then the breeder would, as a matter of course, look for the sires and dams of such animals as Lottery, Gaylad, Brunette, &c., and choose from them, or their immediate relations, mares and stallions for his purpose. Again, in breeding hunters, it would follow that such stallions should be selected as have produced good stock of that particular class, in which stoutness, cleverness, good temper, and sound constitution are indispensable requisites, when united also with the power of carrying weight. Trotters, again, must be chosen for getting trotters; and no one would expect to rear a horse capable of doing his fourteen miles per hour at this pace, from a sire and dam which could not trot above eight, and that with a straight knee. I have myself owned a mare by Monarch, out of Gadabout, which was as fine a trotter as ever was seen, going fast and in the most perfect trotting style, and I have seen some few others, almost as good, of full blood; but they are exceptions to the rule; and there is no case that I know of in which a thorough-bred horse could compete with the regular match-trotter. In all cases, therefore, the breeder must make up his mind as to what he wants, and then select his mares and sires from such animals as belong to families which have long been famous for the qualities he is in search of. If, in addition, he can actually procure the individuals which have distinguished themselves, it will be so much the better; but we shall hereafter find that family is of more consequence than individual success.

Sect 2.—The most Profitable Kind of Breeding.

In many cases the breeder undertakes his task for the purpose of gratifying his taste for rural sports and amusements, and without regard to profit; but in most instances there will be a desire to make the speculation successful in a pecuniary point of view, as well as with regard to honorary distinction on the turf. But when it is remembered that three-fourths of those bred expressly for racing are worthless for that purpose, and that each colt or filly costs considerably more than 100*l.* at three years old, it becomes a question how best to conduct operations so as to make use of the casts-off from the racing-stable for other purposes. The question is solved in this way: there are certain breeds of horses which are first-rate on the turf, and also in the hunting-field; as, for instance, all the descendants of Waxy and his family, except Touchstone—namely, Sir Hercules, Defence, The Colonel, The Saddler, Economist, Harkaway, Safeguard, Memnon; these have all been extraordinary in this respect; and if I were selecting mares for general purposes, it would be my object to obtain those got by one or other of them. Lottery and his son, Sheet Anchor, have also been remarkable in this way, and would be valuable for the purpose; but as the family has not been so extensively useful, they are not to be relied on in the same degree. The Comus, Reveller, and Humphrey Clinker strains have likewise been much in vogue for this double purpose, many first-rate hunters being descended from these horses and also good racing-stock, as lately seen in Melbourne. Partisan, and his son, Venison, deriving their descent from Highflyer and Parasol, the grandam of Whalebone, are, in the same category of horses, useful in both vocations; while Ishmael and Ratcatcher, again, may be adduced as descendants of Selim, which have been useful in the hunting-field, but they have not equalled the previously mentioned horses in their hunting-stock. On the other hand, there are many strains of good racing-blood which have never, or scarcely ever, turned out a hunter or a steeplechaser—Touchstone, already mentioned, and his brother Launcelot, Priam, Plenipotentiary, Velocipede, Pantaloon, Bay Middleton, Beiram, Pharamond,

tom, &c. &c.; and though such blood may suit the breeder for one purpose, it is not calculated to serve the man who wishes two strings to his bow. From these remarks it may be gathered, that, in my humble opinion, a breeding-stud may be formed which shall produce a few colts and fillies capable of racing; whilst those which are not racehorses may be expected to serve as hunters of a high class. By this plan a greater number of prizes will be drawn in the lottery, and the scheme will pay far better than on the exclusive principle. So long as thorough-bred hunters are the fashion, and command such high prices, it will be found that it is a much more paying speculation to sell off the drafts at hunters' prices, than for the wretched sums which they fetch as racing stock. There are so many accidents and risks in all stud-farms, that a great number will always be useless or dead, and the blanks will in proportion be numerous; consequently it is highly necessary to make the most of the materials which are available for paying the expense of the establishment. If, then, instead of selling off the rejected three-year-olds, such as are of good size are turned out, and allowed to grow and thicken till they are five, they might then be re-broken and made into hunters, or sold for that purpose, without incurring any trouble or risk; and they would fetch from 150*l.* to 200*l.* a-piece, or in some cases considerably more.

Sect. 3.—Selection of Brood Mare.

In Choosing the Brood Mare four things must be considered—first, her blood; secondly, her frame; thirdly, her state of health; and fourthly, her temper.

Her Blood or breeding will mainly depend upon the views of the breeder—that is to say, what particular class of colts he wishes to obtain, and according to his decision he will look out for mares of the particular kind he desires to reproduce on the principle that "like begets like," but subject to the various considerations partly alluded to in the last chapter, and partly in this and subsequent ones.

In Frame, the mare should be so formed as to be capable of carrying and well nourishing her offspring; that is, she should be what is called "roomy." There is a formation of the hips which is particularly unfit for breeding purposes, and yet which is sometimes carefully selected, because it is considered elegant; this is the level and straight hip, in which the tail is set on very high, and the end of the haunch-bone is nearly on a level with the projection of the hip-bone. The opposite form is represented in the skeleton given with the article "Horse," which is that of a thorough-bred mare, well formed for this breeding purpose, but in other respects rather too slight. By examining her pelvis, it will be seen that the haunch-bone forms a considerable angle with the sacrum, and that, as a consequence, there is plenty of room, not only for carrying the foal, but for allowing it to pass into the world. Both of these points are important, the former evidently so, and the latter no less so on consideration, because if the foal is injured in the birth, either of necessity, or from ignorance or carelessness, it will often fail to recover its powers, and will remain permanently injured. The pelvis, then, should be wide and deep—that is to say, it should be large and roomy; and there should also be a little more than the average length from the hip to the shoulder, so as to give plenty of bed for the foal; as well as a good depth of back-ribs, which are necessary in order to support this increased length. This gives the whole framework of the trunk of a larger proportion than is always desirable in the racehorse, which may easily be overtopped; and hence many good runners have failed as brood mares, whilst a great number of bad runners have been dams of good racehorses. Beyond this roomy frame, necessary as the eggshell of the foal, the mare only requires such a shape and make as is well adapted for the particular purpose she is intended for; or if not possessing it herself, she should belong to a family having it, according to the 13th axiom given in the last chapter. If a mare can be obtained possessing all these requisites in her own person, so much the more likely will she be to produce racehorses; but if not all, then it is better that she should add as many as possible to the needful framework, without which her office can hardly be well carried out. But with this suitable frame, if she belongs to a family which, as a rule, possesses all the attributes of a racehorse, she may be relied on with some degree of certainty, even though she herself should fail in some of them. Thus, there are many fine roomy mares which have been useless as racehorses from being deficient in the power of some one quarter, either behind or before, or perhaps a little too slack in the loin for their length. Such animals, if of good running families, should not be despised; and many such have stood their owners in good stead. On the other hand, some good-looking animals have never thrown good stock, because they were

only exceptional cases, and their families were of bad running blood on all or most sides. No mare could look much more unlike producing *strong* stock than Pocahontas, but being of a family which numbers Selim, Bacchante, Tramp, Web, Orville, Eleanor, and Marmion among its eight members in the third remove, it can scarcely occasion surprise that she should respond to the call of the Baron by producing a Stockwell and a Rataplan.

In Health, the brood mare should be as near perfection as the artificial state of this animal will allow; at all events it is the most important point of all, and in every case the mare should be very carefully examined, with a view to discover what deviations from a natural state have been entailed upon her by her own labours, and what she has inherited from her ancestors. Independently of the consequences of accidents, all deviations from a state of health in the mare may be considered as more or less transmitted to her, because in a thoroughly sound constitution, no ordinary treatment such as training consists of will produce disease, and it is only hereditary predisposition which, under this process, entails its appearance. Still there are positive, comparative, and superlative degrees of objectionable diseases incidental to the brood mare, which should be accepted or refused accordingly. All accidental defects, such as broken knees, dislocated hips, or even "breaks down," may be passed over; the latter, however, only when the stock from which the mare is descended are famous for standing their work without this frailty of sinew and ligament. Spavins, ring-bones, large splents, side bones, and, in fact, all bony enlargements, are constitutional defects, and will be almost sure to be perpetuated, more or less, according to the degree in which they exist in the particular case. Curby hocks are also hereditary, and should be avoided; though many a one much bent at the junction of the *os calcis* with the *astragalus* is not at all liable to curbs. It is the defective condition of the ligaments there, not the angular junction, which leads to curbs; and the breeder should carefully investigate the individual case before accepting or rejecting a mare with suspicious hocks. Bad feet, whether from contraction or from too flat and thin a sole, should also be avoided; but when they have obviously arisen from bad shoeing, the defect may be passed over. Such are the chief varieties of unsoundness in the legs which require circumspection; the good points which, on the other hand, are to be looked for are those considered desirable in all horses that are subjected to the shocks of the gallop. Calf knees are generally bad in the racehorse, and are very apt to be transmitted, whilst the opposite form is also perpetuated, but is not nearly so disadvantageous. Such are the general considerations bearing upon soundness of limb. That of the wind is no less important. Broken-winded mares seldom breed, and they are therefore out of the question, if for no other reason; but no one would risk the recurrence of this disease, even if he could get such a mare stinted. Roaring is a much vexed question, which is by no means theoretically settled among our chief veterinary authorities, nor practically by our breeders. Every year, however, it becomes more and more frequent and important, and the risk of reproduction is too great for any person wilfully to run by breeding from a roarer. As far as I can learn, it appears to be much more hereditary on the side of the mare than on that of the horse; and not even the offer of a Virago should tempt me to use her as a brood mare. There are so many different conditions which produce what is called "roaring," that it is difficult to form any opinion which shall apply to all cases. In some instances, where it has arisen from neglected strangles, or from a simple inflammation of the larynx, the result of cold, it will probably never reappear; but when the genuine idiopathic roaring has made its appearance, apparently depending upon a disease of the nerves of the larynx, it is ten to one that the produce will suffer in the same way. Blindness, again, may or may not be hereditary; but in all cases it should be viewed with suspicion as great as that due to roaring. Simple cataract without inflammation undoubtedly runs in families; and when a horse or mare has both eyes suffering from this disease, without any other derangement of the eye, I should eschew them carefully. When blindness is the result of violent inflammation brought on by bad management, or by influenza, or any other similar cause, the eye itself is more or less disorganized; and though this itself is objectionable, as showing a weakness of the organ, it is not so bad as the regular cataract. Such are the chief absolute defects, or deviations, from health in the mare; to which may be added a general delicacy of constitution, which can only be guessed from the amount of flesh which she carries while suckling or on poor "keep," or from her appearance on examination by an experienced hand, using his eyes as well. The firm full muscle, the

bright and lively eye, the healthy-looking coat at all seasons, rough though it may be in the winter, proclaim the hardiness of constitution which is wanted, but which often coexists with infirm legs and feet. Indeed, sometimes the very best-topped animals have the worst legs and feet, chiefly owing to the extra weight they and their ancestors also have had to carry. Crib-biting is sometimes a habit acquired from idleness, as also is wind-sucking; but if not caused by indigestion, it often leads to it, and is very commonly caught by the offspring. It is true that it may be prevented by a strap; but it is not a desirable accomplishment in the mare, though of less importance than those to which I have already alluded, if not accompanied by absolute loss of health, as indicated by emaciation, or the state of the skin.

LASTLY, THE TEMPER is of the utmost importance, by which must be understood not that gentleness at grass which may lead the breeder's family to pet the mare, but such a temper as will serve for the purposes of her rider, and will answer to the stimulus of the voice, whip, or spur. A craven or a rogue is not to be thought of as the "mother of a family;" and if a mare belongs to a breed which is remarkable for refusing to answer the call of the rider, she should be consigned to any task rather than the stud-farm. Neither should a mare be used for this purpose which had been too irritable to train, unless she happened to be an exceptional case; but if of an irritable family she would be worse even than a roarer, or a blind one. These are defects which are apparent in the colt or filly, but the irritability which interferes with training often leads to the expenditure of large sums on the faith of private trials, which are lost from the failure in public, owing to this defect of nervous system.

SECT. 4.—CHOICE OF STALLION.

LIKE THE BROOD MARE, the stallion requires several essentials—commencing also like her, first, with his blood; secondly, his individual shape; thirdly, his health; and fourthly, his temper. But there is this difficulty in selecting the stallion, that he must not only be suitable *per se*, but he must also be adapted to the particular mare which he is to "serve." Thus, it will be manifest that the task is more difficult than the fixing upon a brood mare, because (leaving out of consideration all other points but blood) in the one case, a mare only has to be chosen which is of good blood for racing purposes, while in the other there must be the same attention paid to this particular, and also to the stallion's suitability to the mare, or to "hit" with her blood. Hence, all the various theories connected with generations must be investigated, in order to do justice to the subject; and the breeder must make up his mind whether in-and-in-breeding, as a rule, is desirable, or otherwise; and if so, whether it is adapted to the particular case he is considering. Most men make up their minds one way or the other on this subject, and act accordingly, in which decision much depends upon the prevailing fashion. The rock upon which most men split is a bigotted favouritism for some particular horse; thus, one man puts all his mares to Orlando; another to Surplice or the Flying Dutchman; although they may every one be of different blood and form to the others. Now, this cannot possibly be right if there is any principle whatever in breeding; and however good a horse may be, he cannot be suited to all mares. Some, again, will say that any horse will do, and that all is a lottery; but I think I shall be able to show that there is some science required to enable the breeder to draw many prizes. That the system generally followed of late is a bad one I am satisfied, and with the usual and constant crossing and re-crossing it is almost a lottery; but upon proper principles, and with careful management, I am tempted to believe that there would be fewer blanks than at present. I have already given my own theoretical views upon the case, illustrated by numerous examples on both sides of the question. It will now be my object to apply these views practically by selecting particular instances.

IN CHOOSING THE PARTICULAR BLOOD which will suit any given mare, my impression always would be, that it is desirable to fix upon the best strain in her pedigree, if not already twice bred in-and-in, and then to put to her the best stallion available of that blood. In some cases, of course, it will happen that the second best strain will answer better, because there happens to be a better horse of that blood to be had than of the superior strain, which would otherwise be preferred. If, on the other hand, the mare has already been in-bred to the extent of two degrees, then a cross will be advisable; but I am much inclined to believe, from the success of certain well-known cases, that even then a cross into blood already existing in the mare, but not recently in-bred nor used more than once, will sometimes answer. Upon these principles I should, therefore, look for success; and if the series of tables I have herewith given

are carefully studied, it will be seen that the production of good winners has so often followed this practice as to make its adoption exceedingly tempting. It is surprising to me that this very common occurrence of in-breeding among our best modern horses has so generally escaped observation, and the only way in which I can explain it is by supposing, that having frequently been through the granddam on either side it has been lost sight of, because the knowledge of the sire's and grandsire's blood is generally the extent to which the inquiry goes. Thus, we find the most recent writer on the subject, who assumes the name of "Craven," asserting, at page 121 of "The Horse"—"There is no proximity of relationship in the genealogy of the Flying Dutchman, Touchstone, Melbourne, Epirus, Alarm, Bay Middleton, Hero, Orlando, Irish Birdcatcher, Cossack, Harkaway, Tearaway, Lothario, or others of celebrity." Now of these the Flying Dutchman is the produce of second cousins; Bay Middleton, his sire, being also in-bred to Williamson's Ditto and Walton, own brothers; and Orlando, containing in his pedigree Selim twice over, and Castrel, his brother, in addition. Melbourne also is the produce of third cousins, both his sire and dam being descended from Highflyer. But if to these four, which he has specially named, be added the numerous "others of celebrity" to which I have drawn attention, besides a host of lesser stars too numerous to mention, it will be admitted that he assumes for granted the exact opposite of what really is the case.

THE CHOICE OF PARTICULAR STALLIONS, AS DEPENDENT UPON THEIR FORMATION, is not less difficult than that of the mare, and it must be guided by nearly the same principles, except that there is no occasion for any framework especially calculated for nourishing and containing the fœtus, as in her case. As far as possible, the horse should be the counterpart of what is desired in the produce, though sometimes it may be necessary to select an animal of a breed slightly exaggerating the peculiarity which is sought for, especially when that is not connected with the preponderance of fore or hind-quarters. Thus, if the mare is very leggy, a more than usually short-legged horse may be selected, or if her neck is too short or too long, an animal with this organ particularly long, or the reverse, as the case may be, should be sought out. But in all cases it is dangerous to attempt to make too sudden an alteration with regard to size, as the effort will generally end in a colt made without a due proportion of parts, and therefore more or less awkward and unwieldy.

IN CONSTITUTION and general health, the same remarks exactly apply to the horse as the mare. All hereditary diseases are to be avoided as far as possible, though few horses are to be met with entirely free from all kinds of unsoundness, some the effects of severe training, and others resulting from actual disease, occurring from other causes. With regard to fatness, there is an extraordinary desire for horses absolutely loaded with fat, just as there formerly was for overfed oxen at Christmas. It is quite true that the presence of a moderate quantity of fat is a sign of a good constitution, but, like all other good qualities, it may be carried to excess, so as to produce disease; and just as there often is hypertrophy, or excess of nourishment of the heart, or any bony parts, so is there often a like superabundance of fat causing obstruction to the due performance of the animal functions, and often ending in premature death. This is in great measure owing to want of exercise, but also to overstimulating food; and the breeder who wishes his horses to last, and also to get good stock, should take especial care that he has enough of the one and not too much of the other.

IN TEMPER, also, there is no more to be added to what I have said relating to the mare, except that there are more bad-tempered stallions met with than mares, independently of their running, and this is caused by the constant state of unnatural excitement in which they are kept. This kind of vice is, however, not of so much importance, as it does not affect the running of the stock, and solely interferes with their stable management.

SECT. 5.—BEST AGE TO BREED FROM.

It is commonly supposed that one or other of the parents should be of mature age, and that if both are very young or very old the produce will be decrepit or weakly. A great many of our best horses have been out of old mares, or by old horses—as, for instance, Priam, out of Cressida, at twenty; Crucifix, out of Octaviana, at twenty-two; and Lottery and Brutandorf, out of Mandane, at twenty and twenty-one; Voltaire got Voltigeur at twenty-one; Bay Middleton was the sire of Andover at eighteen, and Touchstone got Newminster at seventeen. On the other hand, many young stallions and mares have succeeded well, and in numberless instances the first foal of a mare has been the best she ever produced. In the

olden times, Mark Anthony and Conductor were the first foals of their dams; and more recently, Shuttle, Pope, Filho da Puta, Sultan, Pericles, Oiseau, Doctor Syntax, Manfred, and Pantaloon have all been first-born. Still these are exceptions, and the great bulk of superior horses are produced later in the series. The youngest dam which I ever heard of was Monstrosity, foaled in 1838, who produced Ugly Buck at three years old, having been put to Venison when only two years of age. Her dam also was only one year older when she was foaled; and Venison himself was quite a young stallion, being only seven years old when he got Ugly Buck; so that altogether the last mentioned horse was a remarkable instance of successful breeding from young parents. As in most cases of the kind, however, his early promises were not carried out, and he showed far better as a two-year-old, and early in the following year, than in his maturity. Such is often the case, and, I believe, is a very general rule in breeding all animals, whether horses, dogs, or cattle. The general practice in breeding is to use young stallions with old mares, and to put young mares to old stallions; and such appears to be the best plan, judging from theory as well as practice.

Sect. 6.—Best Time for Breeding.

For all racing purposes, an early foal is important, because the age takes date from the 1st January. The mare, therefore, should be put to the horse in February, so as to foal as soon after January 1st as possible. As, however, many mares foal a little before the end of the eleventh month, it is not safe to send her to the horse before the middle of the second month in the year. For further particulars, see the chapter in which the general management of the mare and foal is fully detailed.

Sect. 7.—Peculiarities of the Various Modern Breeds.

The various crosses since the days of Herod, Eclipse, and Matchem are so numerous, that it is no longer possible to class them under the heads of these three horses; and far less under those of their reputed ancestors—the Godolphin and Darley Arabians and the Byerley Turk. There are, however, in the present day, certain strains which have distinguished themselves on the turf, as remarkable for certain qualities; such as the Waxys, the Orvilles, and the Buzzards, in the very first class, and the Blacklocks, the Tramps, the Waltons, the Haphazards, and the Sorcerers in the second. Besides these, there have been other strains celebrated in their day, but which have not come down to the present time without loss of reputation. As sires only the above horses are here considered.

Waxy stands at the head of the list, not only as an extraordinary racehorse himself, but as having got immediately and remotely more winners of great races than any two horses since his time. Indeed, when a horse numbers thirteen winners of the Derby among his stock in the direct male line within fifty years, besides eleven Oaks winners, and thirteen St. Leger victories, it is incontrovertible evidence of the superiority of his blood. Like Orville, he is chiefly composed of Eclipse and Herod blood, with a double-dash of the Godolphin, through Sportsmistress and Lisette. His stock are all remarkable, like the Orvilles, for great gameness and true running; but they have not generally so much bone and substance as that horse's descendants. Whalebone and Wire, two of the extraordinary family by him out of Penelope, are well and characteristically named, and give the idea exactly of the peculiarities of most of the blood. They stand any amount of training as far as their constitutions go, and are rarely overmarked; but most of them require care in reference to their legs, which are scarcely capable of standing the work which the wiry nature of their bodies demands, in order to bring them out fine enough for displaying their extraordinary staying qualities. They will run all day, and no distance is too great for them; indeed, it is in this point that they are so particularly to be depended upon; not being so fast for a mile as many others, but when two miles are to be compassed they shine to great advantage, and still more at longer distances. Hence, they have succeeded frequently over the St. Leger course after failing in the Derby—as in the cases of The Colonel, Touchstone, Newminster, &c.; and still more frequently in the distances run in the Derby, Oaks, and St. Leger than in the 2000 Guineas Course. As steeplechasers also their peculiar powers have been displayed, and the success of Sir Hercules in this way is very remarkable. Discount, a son of his, was a Waxy all over, having the full muscular body, with a constitution of iron; but unfortunately accompanied with legs that would scarcely ever stand a preparation, even when conducted with all the care of an experienced trainer. Besides the Waxy lines which are seen in the female branches

of so many of our best pedigrees, there are in the male line, Whalebone and Whisker, out of Penelope, and Waxy Pope, out of Prunella, her dam; the two first are now reunited in the Baron, Cotherstone, and West Australian, while the last has done good service in Ireland; and still further, Stockwell, Rataplan, and Andover unite to the two first the blood of their sister Web. Whalebone was also sire of Camel, Waverley, Defence, and Sir Hercules; and these, again, are represented in the present day as follows: Camel, by Touchstone and Orlando—*cum multis aliis*; Waverley, by the Saddler and Don John; Defence, by Safeguard, the Emperor (just dead), Hero, Andover, and Pyrrhus I. (most however in the female line); Sir Hercules, by Birdcatcher, and his brother Faugh-a-ballagh; besides, Robert de Gorham, and Newcourt, and, through Birdcatcher, Chanticleer; Whisker is perpetuated by The Colonel and his son, Chatham, as well as by several in the female line; also by Economist and his son, Harkaway.

ORVILLE, like Waxy, a good racehorse as well as a sire of racehorses, is remarkable for combining speed with stoutness in a greater degree than most of our celebrated horses. Like almost all of our best stallions, he was in-bred to King Herod, his dam having been by Highflyer, son of Herod, and his son out of a Herod mare; whilst his grandsire, King Fergus, was out of a mare by Tartar, sire of Herod. Hence, according to the law to which I have alluded at great length, it is to be expected that his blood, being in-bred to such a horse as Herod, will prevail; and especially when the remaining strains are derived from Eclipse, Crab, and Matchem. As the ancestor of the following horses, he will always be famous; and his blood even in the present day is eagerly sought for. When put to Emily, who was also full of Herod and Eclipse blood, he got Emilius, a horse quite as celebrated as his sire. By Eleanor, the celebrated winner of the Derby and Oaks, he had Muley, who is now represented by Drayton, she being bred very much like Emily, and both possessing the blood of Whiskey; and again, by Miss Sophia, another descendant of Herod and Eclipse, he got Master Henry, a very celebrated runner and sire in his day, but now chiefly represented by Touchstone. By Bizarre, sister to Finesse, and also full of Herod and Eclipse blood (see table 73), he had Bizarre, who, however, has not much added to his sire's fame; and finally, out of Marianne, by Mufti, he got Octavius, a winner of the Derby, but not otherwise celebrated. Emilius was a magnificent horse, with bone and substance calculated to carry 14st. He was the sire of Priam, Plenipotentiary, Recovery, Pompey, Euclid, California, Theon, Plenary, Oxygen, and Duvernay, besides many others; but the above have most of them done good service in the stud, some of them being extraordinary runners as well as getters of stock—as, for instance, Priam, Plenipotentiary, Pompey, and Recovery. The success of Priam is remarkable, considering the small number of mares put to him in this country; but, in any case, to be the progenitor of Crucifix, and her sons Surplice and Cowl, of Miss Letty, Industry, Weathergage, Cossack, and the Hero, is no common reputation. All these horses here mentioned have been distinguished by true running, and the blood always trains on, which is a very important advantage; the descendants of Emilius being full of Eclipse blood through the male line, and also through Miss Hervey, Waxy, Vixen, and Saltram, are particularly stout and honest.

BUZZARD differs from Waxy and Orville in the general characteristics of his stock, which are more calculated for the Rowley Mile than for the longer distances of the Epsom and Doncaster courses. Still, considering their enormous speed, they are wonderfully stout; but no horse can possibly live the pace of which some of the family are capable, without showing signs of distress. Hence, many of this strain have obtained a character for want of staying qualities without fully deserving it; but still there is no doubt that over a distance of ground they would generally be beaten by the stock of Whalebone or Orville. Most of this blood have finely-sloping shoulders, with rather light carcases, good propelling powers generally, but marked by rather weak lower thighs, and somewhat straight hocks. This last characteristic is very peculiar to them, for though the point of the hock is well developed, yet it seems, as it were, drawn into the *tendo Achillis*, and almost continuous with it, yet at the same time without any appearance of curbs. Whether or not their great speed is in any way dependent upon this formation I know not, but it seems almost invariably to attend upon this blood. Few of them are strictly well-formed throughout, and almost all are capable of being picked to pieces; and yet they manage, when set going on the course, to enlist the admiration of all by their magnificent style of going. They *flow on* to victory apparently without effort, and

while the Whalebones or Emiliuses often require the stimulus of the whip or spur, the descendants of Buzzard will generally achieve their victories without any persuasion but their own high spirit, and the natural ease and elegance of their action. They generally train very easily, being of a pretty good constitution, and requiring no more sweats than their legs will stand; not that their understandings are particularly good, but that their frames are seldom loaded, and that they readily part with their superfluous flesh. Buzzard is represented by almost as many fashionable horses of the present day as Waxy. In the first generation he got Castrel, Selim, and Rubens, own brothers and their sister, the great-grandam of Ithuriel, out of an Alexander mare. Also Bustard, grandsire of Lanercost. Castrel, again, was sire of Pantaloon and Merlin, and grandsire of the Queen of Trumps. Selim got Sultan and Langar; and through the former is the ancestor of Bay Middleton, Ishmael, Beiram, Glencoe, and Jereed; through Bay Middleton also he is great grandsire of the Flying Dutchman and Andover, and great great grandsire of Wild Dayrell. Langar, again, is sire of Ratcatcher and Epirus, and through the latter is grandsire of Pyrrhus I. Lastly, Rubens is represented conjointly with Whalebone, by a host of Defence mares and their produce; and Defence partaking of the blood of both horses, a share may fairly be claimed by the son of Buzzard.

The Blacklocks are generally known by their plain, vulgar appearance, their calf-knees, flat foreheads, and general plebeian look, often accompanied by leggiuess. Some, however, have been fast enough, with good staying qualities; one of his sons, Mr. Osbaldeston's Tranby, was an extremely stout horse, and his performance under 11st., in the celebrated match against time, will always redound to the credit of his sire. The brilliant performances also of Velocipede and his stock are to be set to his credit, and those of Voltaire and his sons, Voltigeur, Tearaway, and Charles XII. But nearly all of this blood are deficient in temper, and are consequently difficult to train, and to bring out as often as they are wanted.

Tramp is somewhat like Blacklock in the prevailing character of his descendants, but they are generally better formed about the legs, and some of them have been good racehorses, though not quite first-class. Zinganee, Lottery, and Liverpool could all stay a distance; but they were scarcely fast enough to win great stakes; the same may be said of Lanercost and Sheet Anchor and their stock.

The Waltons and the Haphazards may well be classed together. In blood they were nearly identical, being by Sir Peter, out of mares by Eclipse, or his son, Dungannon. Put to two different mares descended from Waxy, they produced—the former, Partisan, and the latter, Filho da Puta; while out of Julia, daughter of Whiskey, Walton got Phantom, another celebrity of his day. Of these, Partisan is now the most prized; and the blood of his sons, Venison and Gladiator, is by many considered equal to anything out, as well as that of their descendants, Vatican, Alarm, Kingston, and Sweetmeat. Nothing can exceed the beauty of form resulting from these combinations of the Waxy and Sir Peter blood; and it seems to be perpetuated in all the descendants, which are remarkable for blood-like frames, with Arabian-looking heads, fine muzzles, full eyes, light necks, and good shoulders, and also for wiry and lasting legs and feet. This latter peculiarity is perhaps owing to their light girth, and consequent want of weight for their legs to carry; but nevertheless they are almost all stout enough, and especially the Venisons. As the sires of good, useful country platers, no horses have ever come up to this strain; but there has generally been a want of high speed, which has kept them in the rear of very good company. They will race all day, and the next day too; and when heats were in vogue they were invaluable to the votaries of that barbarous practice. I suspect the mares of this breed will yet rival the daughters of Defence in breeding good, sound, and, perhaps, even flying stock, put to suitable horses.

Lastly come the Sorcerers.—Large, fast, and loose, they require room to display their peculiar powers, which are calculated to shine over a flat, or any straight course, rather than a small and confined one. Few of this blood are neat, and some are peculiarly coarse and gaunt, like the Melbournes, but yet so well proportioned and truly made as to catch the eye of the connoisseur. With large heads, roomy frames, big legs and joints, united to great useful hocks and powerful propellers, they are fit for any work but turning corners, where they are undoubtedly out of their element. Such are the Soothsayers, Comuses, Revellers, Humphrey Clinkers, and Melbournes; together also with the last horse's celebrated sons, Sir Tatton Sykes, West Australian, and Oulston. All are fast enough for anything, but require time to fill up their

fine frames, and should have been reserved till five years of age, if justice could have been done them. On the whole, this blood may be considered as inferior to none but the three first-described strains, in which it is surpassed in persistance of good qualities for a series of years, though, taking any single horse against him, Melbourne will perhaps make good fight for superiority.

Sect. 8.—List of Modern Stallions.

The following List embraces all the admitted Stallions of the present day, 1866, that were in the Stud-book:—

	Price.
A 1 (4,) brown, by Sweetmeat out of Juanita Perez by Melbourne—At Port, near Ruan, Co. Clare (Ir.)	3 & 2 gs.
Ace of Clubs (7,) chesnut, by Stockwell out of Irish Queen by Harkaway—At Hasketon	10 & 5 gs.
Acrobat (15,) bay, by Ithuriel out of Tour de Force by Sir Hercules—At Cockshote, Addingham, Leeds	7 & 3½ gs.
Adamas (12,) bay, by Touchstone out of Ada Mary by Bay Middleton—At Hill House Farm, Tooting, Surrey	10 gs.
Adventurer (7,) bay, by Newminster out of Palma by Emilius—At Sheffield-lane, Sheffield	25 gs.
Ambrose (17,) black, by Touchstone out of Annette by Priam—At Burghley, near Stamford	15 gs.
Amsterdam (11,) bay, by The Flying Dutchman out of Urania by Idle Boy—At Middle Park, Eltham	15 gs.
Ancient Briton (11,) chesnut, by Cotherstone out of Ellen Horne by Redshank—At Cardiff	5 & 3 gs.
Anglo-Saxon (5,) bay, by Ethelbert out of Griselda by Touchstone—At Red Hill, near Edgware, Middlesex	8 & 3 gs.
Anthracite (14,) brown, by Melbourne out of Fausta by Dr. Faustus—At Enfield	10 & 5 gs.
Apprentice (4,) chesnut, by Idle Boy out of Miss Julia by Don John—At East Acton, Middlesex	10 & 5 gs.
Arthur Wellesley (15,) bay, by Melbourne out of Lady Barbara by Launcelot—At Richmond, Yorkshire	12 gs.
Artillery (13,) bay, by Touchstone out of Jeannette by Birdcatcher—At Lark Lodge, Curragh (Ir.)	10 sovs.
Atherstone (8,) bay, by Touchstone out of Lady Harriet by the Merry Monarch—At Hustbourne Park, Whitchurch, Hants	12 gs.
Audubon (16,) bay, by Birdcatcher out of Lucy Dashwood by Sheet Anchor—At Skahard, Creggs, Galway (Ir.)	5 & 2 sovs.
Autocrat (15,) bay, by Bay Middleton out of Empress by Emilius—At Lymington, Hants	10 & 5 gs.
Bald-Face Stagg, The (11,) chesnut, by Harkaway out of Palma by Plenipo—At Brushford, near Wembworthy, North Devon	10 gs.
Barbarian (17,) bay, by Simoom, dam by Buzzard out of Donna Maria by Partisan—At North Grimston, near Malton	5 & 2 gs.
Barbatus (16,) bay, by Bay Middleton out of Barbara by Lanercost—At St. James's-street, Doncaster	15 sovs.
Bradsman (11,) brown, by Weatherbit out of Mendicant by Touchstone—At Middlethorpe, Yorkshire	10 gs.
Ben Webster (9,) bay, by Barnton out of Bassishaw by the Prime Warden—At Moreland's Farm, Skelton, near York	5 gs.
Big Ben (8,) brown, by Ethelbert out of Phœbe by Touchstone—At Swalcliffe, near Banbury	12 gs.
Birdhill (7,) bay, by Birdcatcher out of Polly Johnson's dam—At Badminton, Chippenham	10 & 5 gs.
Blackdown (6,) chesnut, by Rattle out of Subtlety by Flatcatcher—At Red Hill, near Edgware, Middlesex	12 & 6 gs.
Blair Athol (5,) chesnut, by Stockwell out of Blink Bonny by Melbourne—At Fairfield, near York	100 gs.
Blarney (5,) chesnut, by Claret out of Mag on the Wing by Magpie—At Roxborough, Moy (Ir.)	5 gs

Price

BONNYFIELD (8,) bay, by West Australian out of Queen Mary by Gladiator—At Belmont Farm, East Barnet ... ... 15 gs.

BRILLIANT (8,) bay, by Irish Birdcatcher out of Eyebright by Bay Middleton—At Newton-in-the-Willows ... ... 6 & 3 gs.

BRITISH PRINCE (8,) brown, by King Tom out of Balmoral by Lanercost—At Tring, Hertfordshire ... ... 10 & 5 gs.

BROCKET (16,) bay, by Melbourne out of Miss Slick by Muley Moloch—At Mamhead, near Exeter ... ... 10 gs.

BROTHER TO BIRD ON THE WING (13,) black, by Birdcatcher out of Prairie Bird by Touchstone—At St. James's-street, Doncaster ... ... 15 sovs.

BUCKENHAM (7,) bay, by Voltigeur, dam by Ithuriel, granddam by Langar—At Minton, Wem, Salop ... ... 10 & 5 gs.

CALIBAN (8,) bay, by Kingston out of Hag by Cowl—At Datchet, near Windsor ... ...7 & 2½ sovs.

CAMPERDOWN (8,) bay, by the Flying Dutchman out of Hurry Scurry by Pantaloon—At Norwich ... ... 5 & 2½ gs.

CANARY (8,) bay, by Orlando out of Palma by Plenipotentiary—At Danebury, Stockbridge ... ... 10 gs.

CANNOBIE (18,) bay, by Melbourne out of Lady Lurewell by Hornsea—At Cawston, near Bilton, Rugby ... ... 10 gs.

CANTERBURY (—,) by Hobbie Noble out of Mountain Maid by Vulcan—At Farnborough, Kent ... ... 7 & 3½ gs.

CAPE FLYAWAY (9,) brown, by the Flying Dutchman out of Canezou by Melbourne—At Knowsley Paddocks, Prescot ... ... 10 gs.

CARACTACUS (7,) bay, by Kingston out of Defenceless by Defence—At Highfield, Tittenhanger, St. Albans—*Full* ... ... 20 gs.

CARBINEER (8,) bay, by Rifleman out of Comfit by Sweetmeat—At Catterick Bridge ... ... 10 gs.

CARNIVAL (6,) bay, by Sweetmeat out of Volatile by Buckthorn—At Hooton, near Chester ... ...20 & 10 gs.

CATERER (7,) bay, by Stockwell out of Selina by Orlando—At Harlestone Paddocks, near Northampton ... ... 10 & 5 gs.

CAVENDISH (10,) brown, by Voltigeur out of Countess of Burlington by Touchstone—At Middleton-one-Row, Darlington ... ... 12 gs.

CAWOOD (11,) brown, by The Cure out of Brandy Snap by Muley Moloch—At Measham, near Atherstone ... ... 5 gs.

CELLARIUS (7,) bay, by Fandango out of Hybla by the Provost—At Royston, Herts ... ... 7 & 3 gs.

CHEVALIER D'INDUSTRIE (12,) chesnut, by Orlando out of Industry by Priam—At Dean's Hill, near Stafford ... ... 20 gs.

CITADEL (7,) chesnut, by Stockwell out of Sortie by Melbourne—At Park Paddocks, Newmarket ... ... 20 gs.

CLAPHAM (10,) chesnut, by Stockwell out of Little Fairy by Hornsea—At Bonvilstone, Cardiff ... ... 5 gs.

CLARET (14,) brown, by Touchstone out of Mountain Sylph by Belshazzar—At Rawcliffe, near York ... ... 15 gs.

CLONMORE (5,) brown, by Duc-an-Dhurras, dam by Sleight of Hand—At Roxborough, Moy, Ireland ... ... 2 sovs.

COLONIST (12,) bay, by Melbourne out of Forget Me Not by Hetman Platoff—In Tipperary (Ir.) ... ... 5 & 3 gs.

COLSTERDALE (18,) brown, by Lanercost, dam by Tomboy out of Tesane—At Sheffield-lane, Sheffield ... ... 10 gs.

COMMOTION (12,) bay, by Alarm out of Dinah by Clarion—At Ravensden, near Bedford ... ... 25 gs.

CONFESSOR, THE (18,) bay, by Cowl out of Forest Fly by Musquito—At Tinvane, near Carrick-on-Suir (Ir.) ... ...5 & 3 sovs.

COSTA (7,) brown, by The Baron out of Catherine Hayes by Lanercost—At East Acton, Middlesex ... ... 15 gs.

CRAMOND (9,) bay, by Andover out of Haricot by Mango—At Spring Cottage, Malton ... ... 8 & 8 gs.

	Price
CRATER (9,) bay, by Orlando out of Vesuvienne by Gladiator—At Mamhead, Exeter—*Full*	20 & 10 gs.
CURE, THE (25,) bay, by Physician out of Morsel by Mulatto—At Low-street, near Leaming-lane Station, Bedale	12 gs.
DANIEL (10,) bay, by Newminster out of Lioness by Ballinkeele—At Kilminchy, Maryborough (Ir.)	4 & 2 gs.
DE CLARE (14,) bay, by Touchstone out of Miss Bowe by Catton—At Knowsley Paddocks, Prescot...	10 & 5 gs.
DEFENDER (10,) bay, by Windhound or Melbourne out of Ellen Horn, by Redshank—At Upper Lambourne, Berkshire	10 gs.
DE RUYTER (18,) bay, by Lanercost out of Barbelle by Sandbeck—At East Grinstead	
DIOPHANTUS (8,) chesnut, by Orlando out of Equation by Emilius—At Theobald's Park, Enfield	15 & 7½ gs.
DOLLAR, THE (6,) brown, by The Flying Dutchman out of Payment by Slane —At Rawcliffe, near York	20 gs.
DON JUAN (8,) bay, by Wild Dayrell out of Circassan Maid by Lanercost—At Leggan Hall (Ir.)	5 & 2 gs.
DOUBLE X (6,) brown, by Colonist out of Miss Tom by Crozier—At Bromyard	5½ gs.
DRUID, THE (8,) chesnut, by Mountain Deer out of Devotion by Harkaway—At Colt, Maryborough (Ir.)	2½ sovs.
DUNDEE (8,) bay, by Lord of the Isles out of Marmalade by Sweetmeat—At Croft, near Darlington	80 gs.
DUPE (16,) bay, by Pantaloon out of Decoy by Filho da Puta—At Mamhead, near Exeter	20 gs.
EARL OF SURREY, THE (7,) bay by Kingston out of Dinah by Clarion—At Barrowby Lodge, Grantham	5 & 2½ sovs.
EIDOLON (9,) bay, by The Flying Dutchman out of Black-eyed Susan by Faugh-a-Ballagh—At Leggan Hall (Ir.)	5 & 2 gs.
ELMSDALE, (5,) black, by Annandale out of Nugget by Melbourne—At Hasketon, Suffolk	5 & 2½ gs.
ELY (5,) bay, by Kingston out of The Bloomer by Melbourne—At Hampton Court	50 gs.
ERNST (6,) bay, by Stockwell out of Countess of Albemarle by Lanercost—At Tinvane, Carrick-on-Suir (Ir.)	4 & 2 sovs.
EXCHEQUER (7,) chesnut, by Stockwell out of Stamp by Emilius—At Clumber, Worksop	10 gs.
FAIRY SAINT (10,) chesnut, by Young Tipple Cider out of Luna (h. b.) by Harkaway—At Balyalla, near Ennis (Ir.)	3 & 2 sovs.
FIRST FLIGHT (5,) chesnut, by Brother to Bird on the Wing (1853) out of Physalis by Bay Middleton—At St. James's-street, Doncaster	10 sovs.
FITZ-ROWLAND (11,) chesnut, by Orlando out of Stamp by Emilius—At Messrs. Barrows, Newmarket	10 gs.
FOAM (5,) chesnut, by De Ruyter out of Surf by Storm—At Beau Parc, Slane (Ir.)	2 sovs.
FORAGER (5,) chesnut, by Stockwell out of Sortie by Melbourne—At Easby Abbey, Richmond, Yorkshire	10 gs.
FULBECK (14,) bay, by Beverlac out of Alfreda by Elis—At Belmont Farm, East Barnet	10 gs.
FYFIELD (4,) bay, by Teddington, dam by Voltaire out of Kalmia—At Clatford near Marlborough, Wilts	5 gs.
GAMEKEEPER (15,) brown, by Birdcatcher out of Swallow by Lanercost—At Park Lodge, Virginia, Co. Cavan (Ir.)	5 & 2 gs.
GAMESTER (10,) brown, by The Cossack out of Gaiety by Touchstone—At Belsay, near Newcastle-on-Tyne	7 & 3 sovs.
GEMMA DE VERGY (12,) brown, by Sir Hercules out of Snowdrop by Heron —At Croft, near Darlington	20 gs.
GEMMA JUNIOR (11,) brown, by Sir Hercules dam by Orlando, granddam by Heron—At Cotteridge, King's Norton	5 gs.

Price

GENERAL (9,) bay, by Kingston out of Mulligrubs by Melbourne—At Causetown, Stackallen (Ir.) ... ... 5 & 3 gs.

GILBERT DE GAUNT (16,) chesnut, by Birdcatcher, dam by Langar out of Sister to Busto—At Bretby Park, Burton-on-Trent ... ...5 & 2 sovs.

GLADIATEUR (5,) bay, by Monarque out of Miss Gladiator—At Middle Park, Eltham ... ... 50 gs.

GLENMASSON (12,) bay, by Cotherstone out of Annette by Priam—At Mount Pleasant, Old Warden ... ... 20 & 5 gs.

GOODWOOD (6,) bay, by Mr. Milner out of Prairie Bird by Gladiator—At Tottenham ... ... 5 & 2 gs.

GRANBOROUGH (6,) chesnut by King Tom out of Giraffe by Melbourne—At Mentmore, near Leighton Buzzard ... ... 10 gs.

GRIMSTON (7,) bay, by Stockwell out of Miranda by Lanercost—At Swalcliffe, near Banbury ... ... 10 gs.

GUNBOAT (12,) brown, by Sir Hercules out of Yard Arm by Sheet Anchor—At Bushbury, Wolverhampton ... ... 20 gs.

HADJI, THE (11,) brown, by Faugh-a-Ballagh out of Athol Brose by Orlando —At Hooton, near Chester ... ...6 & 3 gs.

HARLEQUIN (7,) brown, by Voltigeur, dam by Melbourne, granddam by Langar —At Rufford Abbey, Ollerton ... ... 10 & 5 gs.

HIGH TREASON (9,) chesnut, by Mildew out of Gipsy Queen by Tomboy—At Middle Park, Eltham ... ... 15 gs.

HIS EXCELLENCY (6,) chesnut, by West Australian out of Maria by Harkaway —At Marl Hill, Cheltenham ... ... 10 gs.

HORROR (9,) brown, by Wild Dayrell out of Sally by Ithuriel—At Middle Park, Eltham ... ... 10 gs.

HOSPITALITY (13,) brown, by Malcolm out of Envy by Perion—At Ombly, Brigg, Lincolnshire ... ... 10 sovs.

HUNGERFORD (13,) chesnut, by John o'Gaunt out of Miss Kate by the Saddler —At Wentworth, near Rotherham... ... ...10 & 5 sovs.

INDIFFERENCE (10,) chesnut, by Birdcatcher out of Sangfroid by Gameboy—At Aston Park, Preston Brook, Cheshire ... ... 10, 5, & 3 gs.

JINGLING JOHNNY (8,) bay, by Kingston out of Blue Bonnet by Touchstone —At Admaston, near Wellington, Shropshire ... ... 3 gs.

JOEY JONES (8,) bay, by Newminster out of Mrs. Dodds by Birdcatcher—At Middleton-one-Row, near Darlington ... ... 10 gs.

KEMPTOWN (6,) bay, by Kingston out of Brightonia by Touchstone—At Bromyard ... ... 5½ gs.

KENTUCKY (13,) brown, by Mickey Free out of Indiana by Muley Moloch—At Leicester ... ... 5 & 3 sovs

KETTLEDRUM (8,) chesnut, by Rataplan out of Hybla by The Provost—At Root Farm, Whitwell, near Clitheroe ... ... 80 gs.

KINGFISHER (17,) brown, by Irish Birdcatcher out of Queen of Tyne by Tomboy—At Ballyshannon, Curragh (Ir.) ... ... 4 & 2 gs.

KING JOHN (5,) bay, by Kingston out of Dinah by Clarion—At Middle Park, Eltham ... ... 20 gs.

KING OF THE FOREST (12,) bay, by Orlando out of Forest Flower by Glaucus —At Newmarket ... ... 5 & 2½ gs.

KING OF TRUMPS (17,) chesnut, by Velocipede out of Mrs. Gill by Viator—At Root Stud Farm, Whitewell, Clitheroe ... ... 20 gs.

KINGSTOWN (14,) brown, by Tearaway out of Foinnualla by Birdcatcher—At Badminton, Chippenham ... ... 10 & 5 gs.

KING TOM (15,) bay, by Harkaway out of Pocahontas by Glencoe—At Mentmore, near Leighton Buzzard—*Full* ... ... 100 gs.

KINNAIRD (8,) bay or roan, by Wild Dayrell out of May Day by Venison—At Tattershall, near Chester ... ... —

KNIGHT OF KARS (11,) bay, by Nutwith out of Pocahontas by Glencoe—At Stanton Shiffnall ... ... 15 gs.

KNIGHT OF ST. PATRICK (8,) bay, by Knight of St. George out of Pocahontas by Glencoe—At Burghley, Stamford ... ... 25 gs.

Price

KNIGHT OF THE THISTLE (8,) chesnut, by Knight of St. George out of Ava by Lanercost—At Burghley, Stamford... ... ... 10 gs.

KNOWSLEY (7,) bay, by Stockwell dam by Orlando out of Brown Bess—At St. James's-street, Doncaster ... ... 15 sovs.

KOHINOOR (17,) chesnut, by The Libel out of Miss Kitty Cockle by Cadland —At Bushbury, Wolverhampton. ... ... 10 & 3 gs.

LAMBTON (16,) bay, by The Cure out of Elphine by Emilius—At Low-street, Leaming-lane, near Bedale ... ... 20 gs.

LAUGHING STOCK (7,) bay, by Stockwell out of Gaiety by Touchstone—At Kirklington Park, near Carlisle ... ... 7 gs.

LAWYER, THE (8,) brown, by The Libel, dam by Hampton, granddam by Cervantes—At Stanton Shiffnall ... ... 5 gs.

LE MARECHAL (6,) bay, by Monarque out of Lady Lift, by Sir Hercules—At Knockhill, near Ecclefechan, N.B. ... ...7 &2½ sovs.

LIFEBOAT (11,) brown, by Sir Hercules out of Yard Arm, by Sheet Anchor— At Bushbury, Wolverhampton ... ...20 & 10 gs.

LITTLE HASTINGS (13,) bay, by The Little Known out of Flora Hastings by The Libel—At Root Farm, Whitewell, near Clitheroe ... ... 10 & 5 gs.

LITTLE STAG (5,) chesnut, by Mountain Deer out of Gnatcatcher by Bird-catcher—At Bedford ... ... 6 & 3 gs. & 2l. 5s.

LOITERER (9,) chesnut, by Stockwell out of Ennui by Bay Middleton—At Croft, near Darlington... ... ... 12 & 6 gs.

LORD ALBEMARLE (16,) bay, by the Emperor out of Coral by Sir Hercules—At Rawcliffe, near York ... ... 20 gs.

LORD CLIFDEN (6,) bay, by Newminster out of the Slave by Melbourne—At Skelton, near York ... ... 25 gs.

LORD OF THE ISLES (14), bay, by Touchstone out of Fair Helen by Panta-loon—At Clumber, Worksop, Nottinghamshire ... ... 20 gs.

LORD OF THE SOIL (6,) brown, by Lord of the Isles out of Golconda by Bird-catcher—At Sherburn, York.... ... ... 5 & 2 gs.

MACARONI (6), bay, by Sweetmeat out of Jocose by Pantaloon—At Hooton, near Chester ... ... 80 gs.

MAINSTONE (9,) bay, by King Tom out of Blister by Bay Middleton—At Bel-hus, Romford ... ... 7 & 2½ gs.

MAN AT ARMS (9,) bay, by Kingston out of Paradigm by Paragone—At Alvediston ... ... 10 gs.

MARIONETTE (10,) brown, by Touchstone out of Marion by St. Martin—At Lymington, Hants ... ... 15 gs.

MARQUIS (18,) chesnut, by Birdcatcher out of Ellen by Apollo or Birdcatcher —At Leggan Hall (Ir.) ... ... 5 & 2 gs.

MARQUIS (7,) bay, by Stockwell out of Cinizelli by Touchstone—At Dring Houses, York ... ... 20 gs.

MARSYAS (15,) chesnut, by Orlando out of Malibran by Whisker—At Middle Park, Eltham ... ... 25 gs.

MASTER BAGOT (12,) grey, by Faugh-a-Ballagh out of Victorine by Specula-tion—At Michel Grove, near Worthing ... ... 10 gs.

M.D. (12,) brown, by The Cure out of Theano by Waverley—At Mountains-town (Ir.) ... ... 8 sovs.

MENTMORE (11,) bay, by Melbourne out of Emerald by Defence—At Hampton Court ... ... 10 gs.

MIDAS (18,) chesnut, by Beiram out of Merope by Voltaire—At Burghley, Stamford... ... ... 10 gs.

MILDEW (19,) chesnut, by Slane out of Semiseria by Voltaire—At Richmond, Yorkshire ... ... 12 gs.

MOGADOR (6,) bay, by King Tom out of Moonshine by Orlando—At Water Tower Farm, near Rugby ... ... 5 & 2½ gs.

MOROCCO (7,) bay, by King Tom out of Moonshine by Orlando—At North Grimston, near Malton ... ... 5 & 2 gs.

MOTLEY (15,) bay, by Touchstone, dam by Lanercost out of Caroline—At Burgh-by-Sands, Carlisle ... ... 5 & 3 gs.

	Price
MOURAVIEFF (10,) chesnut, by Pyrrhus the First out of Wiasma by Hetman Platoff—At Newbury, Berkshire	10 & 3 gs.
NEPTUNUS (7,) brown, by Weatherbit out of Athena Pallas by Birdcatcher—At Fairfield, near York	10 & 5 gs.
NEVILLE (15,) by Napier out of Sally Snobs by Sandbeck—At Swalcliffe, near Banbury	16 gs.
NEWCASTLE (10,) chesnut, by Newminster out of Mary Aislabie by Malcolm —At Park Paddocks, Newmarket	10 gs.
NEWMINSTER (18,) bay, by Touchstone out of Beeswing by Dr. Syntax—At Rawcliffe, York	50 gs.
NEWTON-LE-WILLOWS (12,) brown, by Melbourne out of Lapwing by Bustard —At Limerick	5 & 2 sovs.
NORTH LINCOLN (10,) bay, by Pylades out of Cherokee by Redshank—At Mentmore, Leighton Buzzard...	20 gs.
NOTTINGHAM (7,) bay, by Kingston out of Athol Brose by Orlando—At Owersby, Brigg, Lincolnshire	10 sovs.
NUTBOURNE (9,) chesnut, by Nabob out of The Princess by Merry Monarch —At Nutbourne, Emsworth	20 & 10 gs.
NUTSHELL (19,) brown, by Nutwith out of Marmora by Sultan—At Burghley, near Stamford	10 gs.
ODD TRICK (12,) chesnut, by Sleight of Hand out of Sister to Leconfield by Hampton—At East Acton, Middlesex	10 & 5 gs.
OLD CALABAR (7,) bay, by King Tom, dam by Picaroon out of Jemima—At Harleston, Northampton	15 & 5 gs.
OLD FASHION (late Old Tom) (12,) brown, by Melbourne out of Lady Shrewsbury by Launcelot—At Sharavogue (Ir.)	5 & 2½ sovs.
OPTIMIST (9,) chesnut, by Lexington, dam by Glencoe out of Jeannettan by Leviathan (bred in America)—At Newmarket	7 & 3½ sovs.
ORLANDO (25,) bay, by Touchstone out of Vulture by Langar—At Hampton Court	50 gs.
OULSTON (14,) bay, by Melbourne out of Alice Hawthorne by Muley Moloch—At Newmarket	12 gs.
OUTCAST (9,) brown, by Voltigeur out of The Gem by Touchstone—At the Curragh (Ir.)	4 & 1½ sovs.
OXFORD (9,) chesnut, by Birdcatcher out of Honey Dear by Plenipotentiary—At Stanton Shiffnall	30 gs.
PALETOT (14,) brown, by Touchstone out of Canezou by Melbourne—At Palmerstown, Naas (Ir.)	5 & 3 gs.
PARMESAN (9,) brown, by Sweetmeat out of Gruyère by Verulam—At Rufford Abbey, Ollerton	10 & 5 gs.
PLUM PUDDING (9,) brown, Sweetmeat out of Foinnualla by Birdcatcher—At Palmerstown, Naas (Ir.)	5 gs.
PORTO RICO (18,) bay, by Orlando, dam by Bay Middleton out of Arbis—At Brownstown, Curragh (Ir.)	5 & 3 gs.
PRIME MINISTER (18,) brown, by Melbourne out of Pantalonado by Pantaloon —At Highfield, near St. Albans	20 gs.
PRINCE PLAUSIBLE (8,) bay, by King Tom out of Longitude by Inheritor—At Willesden, near Kilburn	10 & 5 sovs.
PRIZEFIGHTER (—,) chesnut, by Tearaway out of Deception by Eagle—At Waterford Lodge, Curragh (Ir.)	2 sovs.
PROMISED LAND (10,) bay, by Jericho out of Glee by Touchstone—At Roydon, Diss	20 gs.
RAPID RHONE (6,) roan, by Young Melbourne, dam by Lanercost or Retriever out of Physalis—At Palmerstown, Naas (Ir.)	5 gs.
RAPPAREE (8,) bay, by Rataplan out of Lady Alicia by Melbourne—At Rawcliffe, near York	10 & 5 gs.
RATAPLAN (16,) chesnut, by The Baron out of Pocahontas by Glencoe—At Tickhill, Bawtry	30 gs.
RATTLE (16,) chesnut, by The Fallow Buck out of The Hamble by Camel—At Liss, Petersfield	15 gs.

	Price
RATTLEBONE (9,) gray, by Cruiser out of Wicket by Stumps—At Harlestone Paddocks, Northampton	5 & 2 gs.
RIBBONMAN (12,) bay, by Harkaway out of Rosetta by Roller—At Mainstone Farm, Romsey, Hants	2 gs.
RICHMOND (9,) bay, by Orlando out of Eulogy by Euclid—At Croft, near Darlington	5 gs.
RINALDO (11,) bay, by Kingston out of Kirtle by Sultan—At Debden Green, Loughton, Essex	10 gs.
ROCHESTER (20,) black, by Chatham out of The Margravine by Little John—At Water Tower Farm, near Rugby	5 & 2½ gs.
ROMULUS (8,) brown, by The Flying Dutchman out of Priestess by The Doctor—At Aldford, near Chester	15 gs.
ROUGE DRAGON (8,) chesnut, by Windhound out of Paradigm by Paragone—At Leicester...	7 gs. & 3 sovs.
RUBY (15,) bay, by Bay Middleton out of Crown Jewel by Dulcimer or Coronation—At High Wycombe	10 & 3 gs.
SAUNTERER (12,) black, by Birdcatcher out of Ennui by Bay Middleton—At Middle Park, Eltham, Kent	50 gs.
SAWCUTTER (8,) brown, by Idle Boy out of Titsa by Ion—At Hooton, near Chester	6 & 3 gs.
SCANDAL (11,) brown, by The Cure out of Prudery by Lanercost—At Fairfield, near York...	5 & 2 gs.
SCOTTISH CHIEF (5,) bay, by Lord of the Isles out of Miss Ann by The Little Known—At East Acton, Middlesex	30 gs.
SIMPLE SIMON (9,) brown, by Woodpigeon out of Nicotine by Ion—At the Bull Inn, Harpenden	10 & 3 gs.
SIR COLIN (12,) chesnut, by Robert de Gorham out of Delaine by Bay Middleton—At Radcliffe Race-course, Manchester	7 & 3 gs.
SIR JOHN BARLEYCORN (17,) brown, by Ishmael or The Baron out of Love's Lip by Camel—At Skirmett, near Henley-on-Thames	6 & 3 gs.
SIR PETER LAURIE (22,) brown, by The Saddler out of Well-a-Day by Priam—At St. George's Mews, Cheltenham	10 gs.
SKEFFINGTON (5,) bay, by Teddington out of Juanita Perez by Melbourne—At Knighton, Radnorshire	10 & 3 gs.
SKIRMISHER (12,) bay, by Voltigeur, dam by Gardham by Langar out of Sister to Busto—At Rawcliffe, near York	20 gs.
SOMERSET (12,) brown, by Annandale out of Enchantress by Inheritor—At Theobald's Park, Enfield	10 & 5 gs.
SPITE (7,) brown, by De Clare out of Venom by Harkaway—At Stockbridge, Hants.	10 & 5 gs.
ST. ALBANS (9,) chesnut, by Stockwell out of Bribery by The Libel—At Hampton Court...	50 gs.
STAMPEDO (9,) brown, by Alarm out of Repentance by Annandale—At Newmarket	10 gs.
STAPLETON (11,) brown, by Staplefield out of Hoyden by Gilbert Gurney—At Chichester	5 & 3 gs.
STAR OF THE WEST (7,) bay, by West Australian out of Hopbine by Sir Hercules—At Chilton Cottage, Hungerford	8 & 4 gs.
STOCKWELL (17,) chesnut, by The Baron out of Pocahontas by Glencoe—At Hooton, near Chester—*Full*	100 gs.
SUBURBAN (9,) bay, by Stockwell out of Jane by Verulam—At Althorpe, Northampton	12 & 5 sovs.
SURPLICE (21,) brown, by Touchstone out of Crucifix by Priam—At Hasketon	15 & 7½ gs.
SYCOPHANT (8,) bay, by Rataplan out of Flatterer's dam by Tomboy out of The Duchess of York—At Wroughton, Swindon...	5 & 3 gs.
THORMANBY (9,) chesnut, by Melbourne or Windhound out of Alice Hawthorn by Muley Moloch—At Cawston, near Rugby	50 gs.
THUNDERBOLT (9,) chesnut, by Stockwell out of Cordelia by Red Deer—At Newmarket	20 gs.

	Price
TIM WHIFFLER (7,) brown, by Van Galen out of Sybil by The Ugly Buck—At Croome, near Pershore	15 gs.
TIPPLER (6,) bay, by Tumbler out of Chloris by Bay Middleton—At Donington Park, near Derby	10 & 3 gs.
TOM BOWLINE (9,) bay, by The Flying Dutchman out of Miss Bowe by Catton—At Bretby Park, Burton-on-Trent	10 & 5 sovs.
TOUCHWOOD (10,) brown, by Touchstone out of Bonny Bee by Galanthus—At Highfield Paddocks, St. Albans	5 & 3 gs.
TOXOPHOLITE (11,) bay, by Longbow out of Legerdemain by Pantaloon—At St. James's-street, Doncaster	15 sovs.
TRUMPETER (10,) chesnut, by Orlando out of Cavatina by Redshank—At Danebury, Stockbridge	20 gs.
UMPIRE (9,) chesnut, by Lecompte out of Alice Carneal by Imp Sarpedon—At Croome, near Pershore	12 & 7 gs.
UNDERHAND (12,) bay, by The Cure out of Contraction by Emilius—At Minton House, Wem, Salop	10 gs.
UNION JACK (5,) bay, by Ivan out of Caprice by Coronation—At Kildare (Ir.)	15 & 5 gs.
VAN GALEN (13,) brown, by Van Tromp out of Little Casino by Inheritor—At Low-street, near Bedale	20 gs.
VEDETTE (12,) brown, by Voltigeur, dam by Birdcatcher out of Nan Darrell—At Roydon, Diss	25 gs.
VENGEANCE (14,) brown, by Chanticleer, dam by The Sadler out of Stays—At Hurstbourne Park, near Whitchurch, Hants	12 gs.
VOLTIGEUR (19,) brown, by Voltaire out of Martha Lynn by Mulatto—At Middlethorpe, near York	50 sovs.
WALLACE (9,) chesnut, by Malcolm out of Manœuvre by Rector—At Willesden, near Kilburn	20 sovs.
WAMBA (9,) bay, by Touchstone out of Rowena by Recovery—At Howsham, near Brigg, Lincolnshire	——
WARLOCK (18,) roan, by Birdcatcher out of Elphine by Emilius—At Sheffield-lane, Sheffield	25 gs.
WEATHERBIT (24,) brown, by Sheet Anchor out of Miss Letty by Priam—At Easby Abbey, Richmond	——
WELLAND (7,) chesnut, by Augur out of Sackbut by Dulcimer—At Carnagh, New Ross (Ir.)	4 & 2 sovs.
WILD DAYRELL (14,) brown, by Ion out of Ellen Middleton by Bay Middleton—At Chilton Cottage, Hungerford	40 gs.
WILD DRAKE (14,) bay, by Springy Jack out of Decoy by Filho da Puta—At Old Warden, Biggleswade	5 & 2 gs.
WILTON BEAU (7,) brown, by Red Hart out of Wilton Arrow by Charles XII.—At Beau Parc, near Slane (Ir.)	3 sovs.
WINDHOUND (19,) brown, by Pantaloon out of Phryne by Touchstone—At Easby Abbey, Richmond, Yorkshire	20 gs.
WINGRAVE (7,) bay, by King Tom out of Incurable by The Cure—At Mentmore, Leighton Buzzard	12 gs.
YELLOW JACK (13,) chesnut, by Birdcatcher out of Jamaica by Liverpool—At Newmarket	11 & 3 gs.
YOUNG DUTCHMAN (late General Havelock) (9,) brown, by The Flying Dutchman out of Wish by Touchstone—At Catterick, Yorkshire	10 gs.
YOUNG KINGSTON (—) by Kingston out of Mountain Maid by Vulcan—At Farnborough, Kent	7 & 3½ gs.
YOUNG MELBOURNE (11,) bay, by Melbourne out of Clarissa by Pantaloon—At Doncaster	40 gs.
ZOUAVE, THE (12,) chesnut, by Bantam out of Coquette by Napier—At Old Town (Ir.)	3 sovs.

SECT. 9.—STALLIONS ADAPTED FOR GETTING RACEHORSES.

Having thus enumerated the various specimens of the thorough-bred horse which are offered for use as sires, some confined to racing-stock, and others open to any purpose, I shall first select those which are chiefly useful in getting racehorses;

some of which are also applicable to the double purpose of breeding racehorses, or, failing that, hunters, hacks, and harness-horses. They consist of—

1.—The almost pure, in-bred Waxys, exhibiting, of course, a mixture with other strains, but in all cases being chiefly of Waxy blood. These are—Cotherstone, The Baron, Chanticleer, Chatham, Chabron, and Idle Boy. This strain of blood is admirably adapted as the foundation of a general breeding-stud, being likely to turn out stock which will serve as hunters or hacks, if they fail as racehorses.

2.—The union of Waxy and Orville, as seen in Retriever, Drayton, Ambrose, Robert de Gorham, The Hero, Mathematician, and Theon. These will be almost equally useful as a general breeding-stock with those included under No. 1; but I suspect will produce fewer first-class racehorses.

3.—The Buzzard blood, not of course pure, but comparatively so, as in Epirus, Bay Middleton, and the Flying Dutchman. Calculated to get first-class racehorses rather than general stock.

4.—The Waxy, Orville, and Buzzard united in the following celebrated horses—Touchstone, Orlando, Surplice, Windfall, Longbow, The Libel, Hobbie Noble, Windhound, Assault, Storm, and lastly, those three celebrated brothers, Surplice, Ratapian and King Tom. Here we have the very best racing-blood in existence, varying in degrees of excellence, but all more or less good.

5.—The Orville and Buzzard strains together, as in Pompey, Cowl, and Glentilt. This is good racing-blood, but not equal to Nos. 3 and 4.

6.—The Waxy and Buzzard, as in Coronation, Pyrrhus I., Stockwell, Safeguard, Newcourt, Pitsford, and Bessus. Very good, stout, and fast blood, but requiring the dash of Orville to make it equal to No. 4, and, for this reason, suitable for crossing with mares descended from that horse.

7.—The Blacklocks, represented by Hetman Platoff, Tearaway, Neasham, and Ratan. This strain was until lately quite out of favour; but the extraordinary success of Voltigeur, Skirmisher, and Wild Dayrell, has restored it to its former position.

8.—The Tramp blood, now only to be met with at all unmixed in Weatherbit, Lanercost, and Collingwood, and of doubtful utility.

9.—The Partisans and Filho da Putas, seen in Venison and his sons, Alarm, Kingston, and Vatican; also in Sweetmeat, Colwich, and Giovanni. For remarks on this strain, see page 495.

10.—The Sorcerer blood, now chiefly to be depended on in Melbourne (almost worn out in the service), and his sons West Australian, Sir Tatton Sykes, and Oulston. The first of the three is more Waxy than Sorcerer, the second is mixed with Orville and Cervantes, and the third is very much the same combination as that of Sir Tatton. I have fully commented on these horses at page 495.

Sect. 10.—Stallions suitable for getting Hunters and Steeplechasers.

Besides the above list of Stallions of the day, which, from their comparatively unmixed blood, are more or less suited to the purposes of the breeder according to the views of breeding which are here promulgated, there is a goodly list of horses made up of various strains and crosses, but which from that very circumstance are, in my opinion, not so well calculated for getting racehorses; nevertheless they are likely to be useful as the sires of hunting stock, or for general purposes. For this kind of breeding, nothing answers better than a cross of the Waxy, Orville, and Sorcerer blood, or of the two former with any of the descendants of Sir Peter or Woodpecker; *but in all cases provided they have good shoulders and are sound.* Thus, Drayton has been remarkable in this way, as also is Windfall, and Retriever promises to be equally useful. Of all others, the Waxy blood seems to be the most telling in hunting stock; and if only it is joined to sufficient size, both of bone and frame, it almost always produces a hunter. The temper, constitution, action, and heart are all good in this strain, and nothing is wanted but the above-named element. Defence is the progenitor of a great number of good hunters, both directly and through Safeguard and Bath, his sons. Chatham, Cotherstone, Anandale, Weathergage, Newminster, John o' Gaunt, Theon, The Hero, Chanticleer, Harkaway, Connaught Ranger, Footstool, Fugleman, Idle Boy, Newcourt, Ravensbone, and Russborough, are of the very best blood for getting hunters, *with the chance of an occasional racehorse among them*, if put to stout, thorough-bred mares of a sort which is usually large-boned, and of good size. Small-boned horses are not to be thought of for this purpose; and hence the Epirus strain is objectionable on that score, they being smaller in the bone even than the Waxys, and, in addition, less lasting. All

the sons of Venison are suitable, but especially those crossed with the Orville or Whisker blood—as, for instance, the Fallow Buck and Red Hart; also, Vatican, but that I believe his temper is somewhat ungovernable; and they generally make good hunters, but not with very high action. The Lottery and Tramp strains I have also already mentioned as being valuable for the purpose of getting hunters and steeplechasers; and the following stallions descended from them should be prized when within reach, especially such as are also crossed with Waxy or his descendants—as Birkenhead, Sir Peter Laurie, Footstool, Meteor, Sweetmeat, Tearaway, and his son Kingstown. These also are almost all likely to get good hacks, but the Buzzard and Whalebone blood seems to suit in this way better than most others, except in the case of the Touchstones, which are by no means good in this respect. Defence, on the other hand, who is similarly bred, but without the Orville cross, is famous for getting good hacks, and many of his stock have been very fast and fine trotters—as, for instance, Safeguard and Rector. The former of these horses, though blind, could, when in his prime, bend himself and trot with any thorough-bred horse in the world; and the latter could do his 16 miles an hour, carrying 12st.

THE MODERN ARABS have not been of much use of late years in improving our stock, either of racehorses, hunters, or hacks. Colonel Angerstein tried Marengo, Napoleon's Arab charger, with several good mares, but none have attained an ordinary county-plate horse's form. The same has been the case with the four Arabians in his late Majesty's stud; and the last successful hit with this blood was Fair Ellen, in 1806, by the Wellesley Arab. She was the dam of Lilias, a winner of the Oaks, and of some other stock moderately successful; but I suspect that the time is only now coming when the full benefit will be derived from this fresh infusion of Eastern blood. Safeguard, who is a great-great-grandson of the Wellesley Grey Arabian, will, I think, be found to be of great service in the breeding stud, if his daughters are put to really good and well-bred horses. Unfortunately, his blindness has always prevented his employment with valuable mares, coupled also with the prejudice against modern Arabian blood; but his soundness in every other respect, the exceptional nature of his blindness, the extraordinary goodness of his legs and feet, and his wonderful constitution, together with his success as a sire, considering the inferior mares put to him, will have no doubt induced those good judges, the Messrs. Etwall, to carry the experiment further; and it may be expected that in his old age he will have some few mares of good character and blood. It was formerly supposed that the Arabian mare was the *desideratum*, and that their employment would at once lead to an improvement of the racing stud, but since they have been tried there has been no greater success. Their legs and feet are certainly very enduring, and in that respect they would no doubt benefit our road-horses; but they are deficient in size, power, stoutness, and pace, and their immediate descendants are invariably beaten by the English racer.

SECT. 11.—SIRES OF TROTTERS.

If these horses are desired to be bred, a trotting mare should be put to a trotting horse like the Norfolk Phenomenon, or the Wonder at Dudding Hill; and the less of the pure Eastern blood that is mixed with it the better; and if a decided cross is wanted, it should be sought for in America. Many breeds of our racehorses will be likely to produce stock with good trotting action, sufficient for hacks or harness-horses, but not enough for match purposes. Here *extraordinary* trotting power is demanded, and most of these horses are able to gallop faster than they can trot—in which respect they are totally different from the Eastern bred racehorse. The two breeds do not mix well, and they should be kept studiously separate; and the reason of this is the above-mentioned difference in their action, so that when crossed, you constantly see the fore-quarter trotting while the hind extremities are galloping, as in the butcher's hack.

SECT. 12.—CONCLUDING REMARKS ON BREEDING.

In the remarks contained in the two last chapters, I have endeavoured to show what are the best and most clearly ascertained rules for breeding fast and stout horses of all kinds. That we possess a breed superior to all others in speed is admitted by universal consent, and no horse of really foreign blood will dare to dispute the palm either in England or within any moderate distance. With the large allowance given in the Goodwood Cup weights, none but horses of English blood ever appear; and though some born out of England have succeeded, yet they have uniformly been descended from our best blood, as in the

past year with Gladiateur, and in previous years with various horses, from Baroncino to the above celebrated horse. But that our horses which have been used to good keep for generations can compete in enduring bad food and exposure to the weather with others which have been reared on a common is perfectly absurd; and we might just as well expect an Englishman to thrive at Sierra-Leone like a native, as that our carefully-reared horses should keep fat and healthy upon a small allowance of barley and musty straw, or even worse fodder. Like their masters, they require strong food, and with that they, like them, will beat the world. Without it they become diseased, and rapidly fall away till they are beaten by a costermonger's donkey, who would thrive upon their rejected litter if necessary. A native of a warm climate, the horse in our cold winters requires good food at all events, and, if possible, a warm stable; but the former is indispensable, and without it he will soon show the evidences of his constitutional requirements. All, therefore, must be taken into consideration in breeding for any particular purpose; and if hardy chargers are required, capable of withstanding cold, wet, and hunger, they can only be obtained in this country in the mountains of Wales or of Ireland; and even there seldom of good size. Many of our best mares are spoiled by cold and starvation, being often turned out of a training-stable upon a bare pasture in the end of the year, and allowed to expose themselves to all the vicissitudes of the weather. After this they are in due course put to a horse who is as much overdone with warmth and stimulating food, and the result is an unhealthy, misshapen foal, resembling neither the sire nor dam. Both should be more carefully kept in health, and a little of the corn bestowed upon the stallion might well be shared with his harem. It is very important that breeders should be more careful than they are in selecting their sires and dams free from hereditary disease. There can be no doubt that if a stallion has done no work he will get better stock than if he has been run to his utmost powers; but at the same time it is equally true that a horse tried and not found wanting, is more likely to do good as a sire than one which has failed in his trial, either from a want of pace or from unsoundness, or from bad temper or excessive irritability. Hence it is the custom at present, founded upon just conclusions, to try a horse for one or two seasons, and if he is successful in his attempts, to put him to the stud, where he often will earn more money than by the most continued successes in winning those stakes which alone are open to aged horses of good character—such as the Queen's Plates, and the few great weight-for-age races. Thus, the Flying Dutchman may be said to bring in 2000*l.* a year; Melbourne, in his later years, a still higher sum; Pyrrhus I. an equal amount, and other horses in proportion to their characters and blood. Fashion reigns supreme in this particular and a horse which may command a full subscription this year, may next season be almost deserted; all depending upon the number of winners of his blood in the current season. A few years ago Defence mares might be had for hack prices, now they are not to be had for love or money. Until Sir Tatton Sykes won the St. Leger, and could have won the Derby if he had been properly ridden, Melbourne was not worth 100*l.*, or very little more; then he rose rapidly in value, and after West Australian's successes he earned his 2000*l.* a year. So was it with Birdcatcher; whilst, on the other hand, Harkaway opened with 100 guineas, and is now at 20 guineas. Whalebone, at 7 years of age, after winning the Derby, was sold for 160*l.* to Lord Jersey, while his brother, Whisker, was bought for 500*l.* at the same sale, untried; and though he also won the Derby, he has not been quite equally successful as a sire. Breeding is no doubt a lottery, and this is not to be wondered at when it is remembered how small is the difference between the first and the last horse in a race. Supposing that in a produce stake 40 foals are entered, and 30 come to the post, there will not probably be two seconds elapse between the time of the first passing the winning-post and that of the last; calculating that all persevere, and allowing 30 yards per second; so that after all it is no great wonder that in so many cases the attainment of those two seconds cannot be achieved. The slightest giving way in the machinery, or any disproportion of parts, is quite sufficient to do this; and the wonder is perhaps less that there are so many failures, as that so many are bred within two or three seconds of one another. One thing, however, is certain, that without good judgment no lengthened success is likely to be achieved; and though ill-luck will sometimes mar the most carefully-formed schemes, yet something more than good fortune is required. Perseverance is another essential, and when this is wanting it cannot be surprising that the laurels which have been planted by one hand,

however scientific, should be worn in the form of a chaplet by another. Continued ill-success is very disheartening, but if it is manfully withstood it will generally end in a series of events of an opposite character; but where luck is not so much the cause of failure as fraud and robbery, it cannot occasion surprise that our best supporters of the turf decline the contest. It is to be hoped, however, that if this is the case they will still breed equally useful horses, adapted to improve our hunters, hacks, and cavalry horses, and to keep up our reputation as the possessors of a breed of horses unrivalled in Europe for each and all of these purposes.

PART II.

RACING IN ALL ITS BRANCHES.

BOOK VII.—PEDESTRIANISM, AND GENERAL TRAINING OF MAN.

CHAPTER I.

DESCRIPTION OF PEDESTRIANISM.

By Pedestrianism is understood, in racing *parlance*, the contest between two or more men, or between a man and time, in walking, running, leaping, vaulting, &c.

In Quick Walking, which is the only kind useful in racing, the body is inclined forwards, and the heel touches the ground before the toes, which next receive the weight. As the former is raised from the ground by the straightening of the ankle, at the same time projecting forward the whole body, the toes come under the centre of gravity and receive the weight; and as the body is still further pushed forward, the other leg swings by its fellow; and before the toes of the first are raised from the ground, the heel of the second reaches it. Hence, this is called walking "toe-and-heel." In this kind of walking, from 180 to 200 steps per minute are usually taken, according to the distance to be walked; and in very short spirts, with small, quick, and active men, fully 220 steps are the average per minute. From 6 to 6½ miles per hour is the outside rate of walking, except in very extraordinary pedestrians like Mr. Hull, who, some years back, is said to have walked 7 miles per hour; and, in a match with Mountjoy, to have completed a mile in 7 minutes 13 seconds, 2 miles in 15 minutes 20 seconds, and 4 miles in 32 minutes exactly, which, if correct, is the fastest time on record. There was, however, great doubt as to the fairness of the walking; but many experienced pedestrians were of opinion that his was a fair "toe-and-heel" walk. The great art is to keep the knees supple and not too straight, and to make use of the arm as a balance-spring, or even as a kind of fulcrum; but in this respect walkers vary a great deal, some, like Mountjoy, using great action of the arms, and others keeping them as still as if they were glued to their bodies.

Running is a different action to walking, being, in fact, a series of small leaps, with one foot at a time, and each alternately, whilst hopping is with one foot only. The upper part of the body is inclined forwards, the head well up, and even a little back, except in running "spirts." The breast is well expanded, and the shoulders thrown back, with the arms raised, the elbows bent, the fingers clenched into the palm of the hand, and the whole upper extremity as rigid as possible, in order to allow of the auxiliary muscles of respiration acting with their full force. There is a great variety in the use and action of the legs in different runners; most, however, keep their knees rather straight, and almost graze the ground with their feet; the tread is on the balls of the toes, and slightly also on the toes themselves; and the spring is made rapidly from one foot to the other, each passing its fellow and taking its turn with great rapidity; at the same time there is a very slight movement of the arms in unison with the legs, but scarcely visible except on close inspection. Good wind is as great a requisite as good legs, and no one should attempt a running-match unless he has a full volume of lungs, and a sound and strong heart. The best time in which the various distances have been done is as follows:—A quarter of a mile in a minute; half a mile in 2 minutes down-hill, or 2½ minutes on level ground; 1 mile in 4½ to 5 minutes; 2 miles in rather less than 10 minutes; 4 miles in 20½ minutes; 10 miles in the hour; 15 miles in 1 hour 35 minutes; and 20 miles in 2 hours and a quarter. Captain Barclay walked 1000 miles in 1000 successive hours; and since his time the feat has been repeated, and even exceeded, by doing 1000 half-miles in 1000 half-hours.

The Conditions of walking-matches are generally in writing, specifying that the man or men shall start at the dropping of a handkerchief, or other signal agreed upon; and that the walker must keep to a fair "toe-and-heel walk"—that is to say, that

either the toe of one foot or the heel of the other must always be in contact with the ground. An umpire on each side is appointed, who follow the men closely, and if either exceeds the "toe-and-heel" walk by running (in which case there is a moment when both feet are clear of the ground), the umpire named by his opponent calls to him to turn, and he must do so or lose the match, unless the order of the one umpire is disputed by the other, in which case the referee, who has also been appointed by the umpires, decides between them. On being called upon to turn, the walker must turn completely round, and also alter his mode of walking, or he is again called upon to turn, and thus equally loses the match by the necessity for constant turning. The distance and ground to be walked over are also fixed by the articles.

In Running-Matches, there is no necessity for conditions, except to specify the ground and the distance, as well as to name the umpires, &c.

Leaping is effected by a sudden contraction of the legs, followed by a still more sudden and jerking extension of all the joints, by which the body is projected into the air clear of the ground. It may be either from a standing position, or with a run; and both may be over a height or across a width. Vaulting is leaping with the assistance of the hands; and, in addition, sometimes the aid of a pole is called in, termed "the leaping-pole." In all leaps, besides those of the lower limbs, the whole of the muscles of the body are violently in action, and especially those of the abdomen and back.

In the Standing-Leap over a Height the legs are brought close together, the knees are considerably bent, the hips are thrown back and the shoulders forward, with the head well up. The arms are slightly and slowly swung backwards and forwards, the body sinks till the calves touch the back of the thighs, and then by a rapid extension of all parts in unison with the swing of the arms, the body is projected over the height to be cleared, and descends upon the toes and ball of the foot, with the legs bent, in order to form a spring to break the fall. In this way some men can clear the height of their waists.

The Standing-Leap over a Width is effected in the same way, but with less contraction of the limbs, and more swinging of the arms. The greatest width I have ever known thus cleared was fourteen feet.

The Running-Leap over a Height requires a start of about from nine to twelve paces. The take-off should be at the distance of half the height of the object to be cleared, and the legs should be well drawn up in front of the belly during the spring. In this way, and by a trick of throwing the legs into a horizontal position, some men can clear an object higher than their heads. With the aid of a spring-board and a descending run three times this height has been surmounted.

The Running-Leap over a Width will be better managed with a run of about twenty paces, and the steps should be very quick and short, increasing in these points up to the moment of springing, which is from the very edge of the space to be cleared. The jumper comes down either upon his heels in a very wide leap, or upon his toes in one where his whole powers are not exerted. On level ground, 21½ feet have been cleared to my knowledge, and 22 feet are said to have been done.

Hop, Step, and Jump, is a very common kind of contest in leaping, and is conducted as follows:—"A starting point" is marked off, then, ten yards further, another, called "the spring." The players are ranged in line on the first, and must run to and start from the second, when the one who can cover the most ground by one long hop, one long step, and a similar jump, is the winner.

Vaulting is effected by leaping with the aid of the hands, from a standing position or a very slow run or walk. The vaulter stands in front of the gate or bar and springs upwards, placing his hand on the top; in this way he swings his body over, lifting it by a muscular effort of the arm and shoulder still higher than the legs alone would carry it, and then guiding it by the aid of the arms it is dropped gently on the feet beyond the gate. Sometimes the vaulter throws the body obliquely over the gate, using one hand and arm only, and sometimes through both arms. By vaulting a man can easily clear his own height, and often considerably more.

The Leaping-Pole is either of fir or bamboo, about two, three, or even five feet higher than the height of the party using it, and becoming stronger towards the bottom. When used for leaping wide ditches, a pole with a flat disk of several inches diameter at the bottom is of great use in preventing its sinking into the mud, and in peaty bottoms often saves a ducking. The pole is thus used:—The right hand is placed at the height of the head, and the left on a level with the hips, then grasping it firmly, it is dropped into the ditch till it touches

the bottom, when making a spring with the left foot, the weight is carried upon the arms, and describes a segment of a circle, the centre of which is at the end of the pole in the ditch. In thus swinging over, the body passes the pole, and from facing the side to which it springs, it changes to facing that from which it sprung. The leap should be made the moment the pole touches the bottom, and too much weight should not be carried upon it. The learner should begin by clearing small ditches, gradually increasing their width, and when expert in these, trying wider ones until he can proceed further without a run; then venturing upon a few yards' preparatory run, which will give additional power in clearing space; and finally adopting a good quick run of about six, eight, or ten yards, gradually taking hold of the pole higher and higher as he increases the width of his jump, In leaping over high objects it is only necessary to fix the attention upon the gate or bar to be cleared, and endeavour to surmount it by an effort of the legs; at the same time raising the weight by the arms on the pole while in the air, and reversing the position as in jumping over a ditch. At first there is some difficulty in managing the pole over the object, but to effect this, the leaper at the time of crossing the bar, and just when he is beginning to descend, must draw the pole upwards and raise the lower part with his one hand whilst he depresses the upper part with the other; by which action the pole is tilted over in unison with the body, and the small end reaches the ground first. When the leap is to be a very high one indeed, the leaper leaves his pole on the taking off side, quitting hold of it as soon as it touches the bar, or rather just before that time.

CHAPTER II.

TRAINING FOR PEDESTRIAN AND OTHER PURPOSES.

Sect. 1.—Preparatory Treatment.

General Remarks.—It is an indisputable fact, that no animal is so much improved by training as man—none stands such long and severe preparation with advantage—and none displays the difference between condition and its absence in so great a degree. Next to him in this respect stands the thorough-bred horse, which certainly displays these attributes almost to the same extent; but still the advantage is in favour of man, who can sustain without injury repeated trials of his powers to their utmost limits—whilst even the thorough-bred horse requires the greatest care, lest by continual and constant work his speed, and what is still worse, his temper, should be ruined. But it is not only that man may be enabled to do certain feats of activity and strength that training is desirable, but that he may do them with pleasure to himself, and even with advantage to his general health; and this marks the grand principle which every man who values health should constantly keep in view, namely, that no one should attempt to compete in any contest requiring agility or strength, unless he has had such a preparation as shall enable him to perform his task without feeling any ill effect from it. For instance, the man in condition can row through a race of three or four miles, in which his whole powers are taxed to their very utmost, and shall, at the end of it, be almost blind from the exertions he has made; and yet before he gets out of the boat he is "all right," and could go through the same in half an hour without injury—whilst the man out of condition lies nearly fainting, or perhaps quite insensible, for many minutes, or even still longer, and is only revived by stimuli to an extent which will not allow any further liberty to be taken with his naturally strong constitution. Pluck will do much in place of condition; but numberless are the instances of ruined health from the excessive drafts which have been made upon this valuable quality, whilst a little care and abstinence would have prevented any such irreparable misfortune. To enable the man who is of sound constitution—but, from mismanagement, out of health—to restore himself to such a state as will allow him to go into training without mischief, is rather a difficult task in most cases, because it not only requires some skill to know what to do, but also great self-command to avoid that which ought not to be done. In the vast majority of instances the health has been impaired by excess of some kind, and in many by every variety of excess which human ingenuity can suggest. But it is wonderful how completely the anticipation

of an Oxford and Cambridge match at Putney, a pedestrian match, or any similar contest, will enable a "fast man" to throw all temptation on one side, and to adhere to all the rules laid down for his guidance with the rigidity of an anchorite. His reply to all tempting offers is, "No, that is bad training." Such is not always the case, it is true; but to a great extent; and more pluck is frequently shown in abstaining from temptation, than in sustaining the prolonged efforts which such a race demands. There are two kinds of excess which are the most likely to have produced such a state as I am supposing—namely, excess in eating, drinking, &c., and excess in literary or other sedentary pursuits. Either will for a time entirely upset the powers of the stomach, and in fact of the whole system, and each will require very different treatment in order to restore those powers. These conditions will also vary very much according to the rank in life, habits, and natural constitution of the individual. For instance, a gentleman's son, having been generously brought up, goes to the university and indulges to excess in wine, smoking, &c., all the while taking strong exercise. For a time his naturally strong constitution enables him to withstand the attacks of the poisonous doses of wine and tobacco which he is taking, but soon his hand begins to shake, his appetite for solid food ceases, his eyes become red, his sleep is restless and unrefreshing, and he is threatened with an attack of delirium tremens. Now, if in such a state as this an attempt is made to go suddenly into training, the consequence is, either that the above disease makes its appearance at once, or, in milder cases, that the stomach refuses to do its duty, and the prescribed work cannot be performed, from giddiness, faintness, sickness, or headache. By a little care and time, however, this state of things may be removed. But suppose the case of a young man in a lower rank, who has been brought up on a spare and rigidly abstemious fare, and who from circumstances is suddenly allowed to indulge in all the temptations of the public-house; he has no other resource—no hunting or cricket to take up his attention—no lectures to attend, and the consequence is that beer and tobacco commence the day, and tobacco and spirits wind it up. Such a man suddenly finds all his energies going, his mind dull and enfeebled, his body weak, flabby, and bloated; in a happy moment he bethinks himself that he will take to boating, or some other amusement which he has formerly perhaps been addicted to, and at once proceeds to the river or the road. Well! what is the consequence? Why, instead of feeling the better for his exertion he is completely knocked up, and perhaps permanently discouraged and deterred from any further trial; in fact, he requires a much more careful treatment to get him into a state of health fit for such an exertion than the Oxonian or the Cantab, because the change from his former habits has been greater, because the imbibition of beer and spirits has been more uninterrupted, because the rooms he has frequented have been less perfectly ventilated, and because he has taken little or no exercise. Indeed, it is astonishing what quantities of intoxicating drinks may be imbibed without much injury, provided that a corresponding amount of exercise is regularly taken. I have myself known young men take from one to two gallons a day of strong ale for many months, besides occasional bottles of wine, &c., without any great injury. One of the most plucky oarsmen I ever knew, regularly swallowed the above quantity, and still pursues the same course, apparently uninjured by it. This gentleman, however, is always walking or riding; and is also by nature of an iron constitution. But a far more difficult task lies before the reading man, who has been devoting twelve to eighteen hours a day to a preparation for honours, and who, finding his health giving way, determines upon going in for honours of another kind. Here the nervous system has been overtaxed, aided by green tea, wet cloths round the head, and perhaps a liberal supply of tobacco; the consequence is that the neglected muscular system is unfit for exertion, and the limbs become stiff and cramped on the slightest effort. This state of things requires many weeks, or even months, to restore the system to a state fit for undertaking any severe work, because the muscles are wanting in solid material, and the nervous system is so irritable as to be totally incompetent to stimulate them with that steadiness and regularity which is essential to success. The same state of things often occurs in the counting-house—a young man is confined for ten or twelve hours a day to the desk and ledger; he has no time for exercise, and his nervous system is over-stimulated by incessant calculation, and also by the constant view of the white paper spread before his eyes; he gets the "ledger fever," and many a young man is rendered by it utterly incompetent to continue this kind of drudgery. Some relieve this unnatural condition by early rising and

pedestrian, or horse and rowing exercise. This plan, if carefully entered upon, is of great service; but it requires some caution at first, and is almost wholly useless if persevered in without those essentials which I shall endeavour to point out.

TREATMENT OF THE FREE LIVER OF ACTIVE HABITS.—I have already observed that the free liver who has usually taken a due amount of exercise, has a comparatively easy task, if he only has the power to command himself, and to check those practices which he has been indulging in. But let this be done with due caution; many is the man who has been driven into *delirium tremens* by suddenly leaving off all stimuli. The best plan is to substitute ammonia in some shape for a part of the accustomed alcohol, and for this purpose to take the following draught once or twice a day, or oftener if that dreadful sinking sensation comes on which is so distressing to those who have indulged to excess in wine and tobacco:—Take of aromatic confection 10 grains, sal volatile 1 drachm, bicarbonate of soda 5 grains, tincture of gentian 1 drachm, water 1 ounce—mix. The quantity of beer, wine, or spirits should be diminished one-half every two or three days, until brought down to the allowance to be hereafter fixed for training purposes; *tobacco should be totally eschewed.* I have invariably found that total abstinence from smoking is easier than temperance. There is not the same danger in leaving it off as is the case with wine, spirits, or beer, in fact there is no danger whatever in so doing; whilst in alcoholic drinks the reverse is the case. My advice, therefore, is, in all cases where the constitution has been impaired by smoking and drinking, to give up the former at once and entirely, but to be very careful in gradually leaving off the latter. With regard to the kind of stimulus which should be adopted, much must depend upon the previous habits. In most cases, when the stomach is not much upset, malt liquor will suffice; and, if sound and unadulterated, is the most wholesome beverage; but in many cases it will not do to leave off suddenly wine and spirits, and adhere to malt alone. In such cases an occasional glass of brandy and water or claret must be allowed. The latter, where it agrees, is an excellent wine for the purpose of gradually lowering the stimulus. No wine suits the nervous system better, and if mixed with soda-water, it may be drunk to a considerable extent by those who have accustomed themselves to a stronger stimulus. When the stomach is very much disordered, it may be mulled, and taken warm. It is not good while in training, but as a preparative for that process it is exceedingly valuable. Those who have been smoking and drinking to excess have stimulated their kidneys and skin to secrete a greater quantity than is natural to those organs. This is an effort of nature to get rid of the poison which has been absorbed into the system, but the effect does not immediately cease on the removal of the cause. Hence, the thirst continues, and some liquid must be given to quench it. It is for this purpose that I advise claret and soda-water to those who can afford it; or to those whose pockets will not allow this luxury, porter or bitter beer mixed with soda-water in equal proportions. Great care must be taken in all these cases in the exhibition of purgatives. No free liver is able to bear strong aperient medicine without some injury to the system, and although very commonly given, it is a practice which ought to be very cautiously adopted. If the liver is acting well (which may be known by the yellow or brown colour of the fæces), a simple black draught may be taken, consisting of half an ounce of sweet essence of senna, with a small teaspoonful of salts dissolved in an ounce of warm water; or one or two compound rhubarb pills may be taken at night. If, on the contrary, the motions are of a clay colour, five grains of blue pill should be taken at night, followed by the above draught in the morning. Should the bowels be relaxed, and inclined to act more than once a day, a wine-glass full of decoction of bark, with a teaspoonful of the compound tincture of bark should be taken two or three times a day. If very loose, 20 or 25 drops of laudanum may be added to each dose; and if very watery, with griping pains, 25 to 30 drops of diluted sulphuric acid may also be given with it. This will almost always check the diarrhœa, and is also useful in giving tone to the stomach and producing an appetite; but if more severe remedies are required, the aid of a medical man should be sought for at once. During the time in which this plan of proceeding is having its effect, it is of the greatest consequence that the mind should be occupied, or rather amused, in some way. This point cannot be too much insisted on, for upon it depends in great measure whether the attempt to restore health to the body shall be successful or the reverse. There is no point more neglected, both in the preparation for training and in the actual period of severe work, than this, and yet it is really the one which ought most to be inculcated. In the first

place, bodily exercise without amusement is mere drudgery—it tires, but does not lead to a restoration of power; whilst if given with some mental excitement, the fatigue is scarcely felt, and what little is experienced, is speedily followed by a reaction which asks for more work of a similar character and tendency. Let any one contrast the effects of a walk or ride, without object or companion, with either the one or the other when taken for the purpose of making a call, or with any other specific object, especially in company of an amusing companion. From the former (called "a constitutional," because it does *not* benefit the constitution), he has returned jaded and out of spirits, whilst from the latter he has experienced an amount of exhilaration varying of course with the nature of the object and the agreeability of his companion. Nothing conduces more to a successful prosecution of this plan of self-treatment than the mutual agreement of two persons whose object is the same, to assist one another by their example. Let two persons agree in earnest to restrain one another when tempted, and also to amuse one another by sparring, or fencing, or riding, or walking together,—or, indeed, any kind of gymnastic exercise. This will aid the purpose of both, as far as the restoration of health is concerned, and they will also find it much more easy to "put the stopper" upon each other than upon themselves. Even if they are not both going into the same kind of training, the preparation for all kinds is the same, the grand object in all cases being to leave off injurious food and drinks, to avoid smoking and venery, and to take sufficient exercise, conjoined with amusement, to tire without prostrating the muscular system. During this period the diet should be plain, but varied. Roast beef and mutton, or chops and steaks, with any vegetables that agree with the individual, may be indulged in. Poultry, game, and fish, are not injurious; and even pastry, if good and plain, will do no harm whatever. It is better to put off the period of rigid dieting to the actual time of training, as the stomach will seldom bear it for any length of time. In the present day, it is scarcely necessary to inculcate the free use of cold water every morning. It is not desirable to bathe during this time, though in warm weather a mere plunge into a river, or, better still, the sea, is very serviceable; but at all seasons the whole body should be sponged every morning, using in very cold weather water at the temperature of 60 or 65 degrees of Fahrenheit. The body should be well rubbed with a rough cloth, until a glow is produced; and the aid of an assistant is here very beneficial. If reaction is speedily produced, a calico shirt may be worn; but if otherwise, flannel in the winter should be put on under the shirt. This, however, is seldom necessary, since those who are so delicate as to require it are seldom fit to go into training. Such is the comparatively easy task of those who have continued to take strong exercise, concomitantly with their free indulgence in wine, tobacco, and all their little etceteras.

THE TREATMENT OF INDOLENT, FREE LIVERS, who have indulged themselves in the same way, whilst at the same time their bodies have been wholly idle, or they have only gone to the limits demanded by the necessity of seeking for the gratification of their appetites, is much more difficult. In such a case very strong control is required, and unfortunately it is in such persons generally absent. Few young men indulge themselves in this way unless they are of a weak and yielding nature, easily led away by importunity, and unable to resist temptation. Many men of strong mental and bodily power have been led into a course of dissipation; in fact, they have not been led, but in the impetuosity of their temperaments have rushed into it. These natures have only to resolve and the thing is done; they decide upon doing or letting alone, and "*c'est un fait accompli.*" But far different is it with the man of perhaps herculean body, but weak and vacillating mind. He, alas! resolves and breaks his resolution forty times a day, and is at once an object of pity and contempt. Such a man may be restrained by a master mind, but rarely has the power to control himself. The sight of a public-house is too much for him, and he cannot resist the temptation it presents. But though, if taken in hand by another, he may be made use of for a time, he is rarely worth the trouble he gives, as the slightest want of vigilance leads to an outbreak which upsets all the good effects of the previous careful supervision. The great difficulty here is to find amusement for the body and mind—the habits of intemperance and idleness have led to a dislike of all exercise, or rather, perhaps, in many cases the natural indolence of body and mind has led to habits of intemperance. If, however, it is desired to effect the change by means of this supervision, it must be as gradual as in the former case with regard to diet, and much more gradual and careful with reference to the kind and amount of exercise.

It sometimes happens that a good-natured and easy-tempered man has given himself up to excesses and idleness, and yet being a good oarsman his services are demanded for his college or university boat. Here some trouble may be spent in restoring him; but such a case is the only one in which it will be repaid, and even then it is a hazardous experiment. The only plan is to hand the poor fellow over to some one person, who is likely to exercise a firm, yet quiet control over him; and to inculcate upon this person the necessity of carefully watching his *protégé* at all hours of the day and night. He should walk, ride, &c., with him; beginning by short distances, and gradually increasing them. Let him by all means take him to cricket matches, coursing meetings, races, &c., or any kind of out-door sport which is most likely to occupy his attention, and at the same time to keep his body gently exercised without exhaustion; then get him home, and after a moderate dinner, and a game at billiards, chess, or cards, for an hour or two, if possible let him be persuaded to go to bed. Here it is not desirable that the hours of bed should be shortened; let him lie till nine or ten in the morning, because he will from his previous habits require longer rest than the average time, and because there is already great difficulty in occupying the hours of the day, so as to keep him out of temptation. In this manner these two classes of men may be restored to health, or at least to such a state as will fit them to undertake the severe work and strict dieting which training for any match will require. Both are likely to be considerably stouter and heavier than the weight at which they will be best able to exert their powers; but this is not always the case, as it sometimes happens that the man who has been indulging to excess in every kind of temptation has lost weight to a considerable extent, and regains it on submitting to the loss of those stimulants which have upset his stomach.

THE OVER-STUDIOUS MAN.—Before proceeding to the treatment of the over-studious, let me earnestly remind those who are desirous of excelling in literary pursuits, that without bodily health the mind is unfitted for exertion in *acquiring* knowledge. It is true that many men, who have already stored their brains with facts, are enabled, even after becoming complete valetudinarians, to impart knowledge to others; but no one can grapple with difficulties for himself while in that state; much time is often lost, and strength squandered, through over-anxiety in reading; but I am fully and firmly convinced, that if eight, or, at most, ten hours a day are well employed—that is to say, if any man really works hard during that time—he will have done all of which his mental powers are capable. This will leave him seven or eight hours for sleep, and six or seven for meals, exercise, &c. Few men, however, of ardent temperaments and studious habits are capable of thus portioning their time; but they may depend upon the fact that, beyond the hours I have named, they will gain nothing by poring over mathematical problems or classical authorities. If this advice were acted up to there would be no occasion for the directions I am about to give; but, from the constitution of the human mind, it is not likely to be followed in many cases. It is needless for me to remark, that in a mind upset by literary study or mercantile accounts, the best plan, if practicable, is to give up reading and writing entirely for a time; but this is seldom to be effected; and if not, all that can be done is to improve the health of the body as much as possible whilst the strain upon the mind continues. In the case of a man who can arrange his own hours of study, and has only a certain object to effect by a given time, I should strongly recommend him in no case to exceed eight hours a-day, and, if possible, not more than six. This will leave him ample time for the prosecution of any bodily training which he may require; and if the health has not been much impaired, and the constitution is naturally strong, he will find that in proportion as he is able to increase the amount of bodily exercise, so will his mental powers recover their tone. But to proceed to details. Few reading men determine upon preparing for a course of training until they are a good deal upset by confinement, and in them some little care is necessary. First and foremost, I should insist upon their giving up smoking, green tea, and coffee, except at meals. There should be no over-stimulation of the brain; but what work is done should be done without any unnatural stimulus. It will be found a very good plan to have two reading-desks—one of a height for sitting to, and the other adapted for standing. Then, when drowsy, or unable to fix the attention to the sitting-desk, let the change be made to a standing position; and in this way the necessity for green tea, or wet cloths to the head, may be avoided. Next, I should advise that the hours of study should be divided into two equal periods—the first commencing immediately

after breakfast, and the second immediately after tea. In this way all the middle of the day may be given up to recreation, dinner, and exercise; and the following hours are those which I should lay down as the most proper, though of course they may be slightly varied to suit particular circumstances. Breakfast, at 8; reading, 8·30 to 12·30; light lunch, on biscuit or sandwich, and glass of bitter beer, or sherry and water; exercise, from 12·30 to 4·30; dinner, at 4·30; relaxation of body and mind till 6·30, when take a cup or two of coffee or black tea; then read for two, three, or four hours, according to circumstances. Then go to bed. When first these hours are adopted the exercise must be very gentle, and of an amusing character; if on horseback, so much the better, though this kind of exercise is not sufficient for the purposes of training, except as a preparation for walking and running. Many men are able to indulge in a nap after dinner with advantage to themselves; but, generally speaking, it is prejudicial. If, however, the mouth feels moist, on waking, and there is no palpitation of the heart, or flatulence, I am strongly of opinion that it does good rather than harm. It is the natural instinct of all animals to sleep after eating, and certainly it is that of man. The reason why sleep after dinner is said to disagree with everybody is, that it is so often interrupted, that it seldom has fair play. Now, disturbed sleep we know to be prejudicial at any hour; and if it cannot be obtained without much chance of interruption, it is better to avoid it altogether. If, however, an hour, or rather more, can be devoted to a nap, and it is found to agree with the individual trying it, the mind will be refreshed as well as the body; and, after a cup of tea or coffee, the studies may be prosecuted with renewed vigour. Thus, I have shown how the studious man can devote sufficient time for the purpose of preserving or restoring his bodily health; and, as we shall hereafter see, enough also to allow him to go into training for any *ordinary* competition in rowing or pedestrian exercise. Now, with regard to the counting-house clerk. Here the hours are fixed, and all that can be done must be done before 9 or 9·30 a.m.; or, in the summer season, after office-hours; nevertheless, many men have trained themselves in spite of these difficulties, but it is arduous and up-hill work. In the winter season there is no light much before eight o'clock, and consequently it is quite out of the question to attempt anything in the way of regular training. Health, however, may be preserved, and preparations made for training during the summer. For this purpose, the best course to pursue is to arrange so that it shall be positively necessary to walk backwards and forwards to the counting-house night and morning. This is much better than attempting to walk without any special object; for in our climate the obstacles offered by the weather are so numerous that it would be postponed three or four times a-week; but when it *must* be undertaken through all weathers, the benefit to health is fully attained, and the Englishman's privilege to grumble is also gratified. Thus, by devoting only one hour night and morning, to a four-mile walk to the house of business, sufficient bodily exercise may be obtained to keep the health tolerably good during this season; and in the summer it is possible to extend the walk, or even, by very early rising, to go into actual training for any particular exertion. Whilst discussing this subject, I would strongly impress upon all those who have the management of those establishments where young men are collected for the purposes of trade, that it is very important that some set time should be fixed for their meals. It is, I believe, the custom for one-third, or one-half, of the young men engaged to dine first, and then, as soon as they have hastily swallowed their meal, for the next division to take their places. This plan is supposed to be very advantageous to the proprietors; yet even of this fact I am very doubtful; but to the assistants it is exceedingly injurious. In many cases, ten hours a-day (in some few even a longer period) are given up to work, interrupted only by the scramble for a meal. This is more than the human frame is calculated to bear; even the farm labourer, or the "factory hand," is allowed his breakfast, and dinner-hour; after which he returns to his work, having laid in a fresh stock of nervous excitability. The consequence of the long strain upon the mind and animal spirits is, that at times they are overpowered, and that errors occur which do more harm to the parties interested than is counterbalanced by the apparent saving of time. The above directions are suited to those cases only in which the state of health is still such as to allow of a prosecution of the usual studies or employment. But there are numerous instances in which the mind and body are both totally upset, and in which it is not only prudent, but imperatively necessary, to give up all attention to business. These are somewhat beyond my province, for in such

cases the aid of a medical man must always be required, and his counsels ought to be implicitly followed. They also rarely occur unattended by such a disordered state of stomach as to require the use of medicine and diet; and, moreover, such cases are precisely those in which the moral control and superintendence of a judicious medical man are demanded. There may be some few in which change of air and scene, agreeable society, moderate exercise, &c., would be quite enough; but it is impossible to draw the line in such a way as to be useful, and, therefore, my advice would be such as I have given above.

Sect. 2.—Actual Training—General Management and Diet.

Training for Walking.—Whether the object is to compete in running or walking, a light run before breakfast for half an hour will just empty the small intestines of their last meal, and prepare the stomach for the breakfast; more than half an hour, however, I am confident, is too long to wait, especially if, as always ought to be the case, the supper has been a mere apology for that meal. For an hour after breakfast, that is, till near eleven o'clock, the pedestrian should amuse himself as he likes best, with billiards or any other game; but at eleven he should be ready dressed in his walking costume, which should be of flannel throughout. For shoes, there is nothing like dogskin upper-leathers, and a moderately thick sole for walking, or a much thinner one for running. From eleven till two, or half-past two, his first walk should be kept up without stopping for a moment, that is to say, after the first week, during which time he has been gradually increasing the time from an hour and a half to the above lengthened period. In any case the pedestrian should be accompanied by his trainer, who should amuse him as much as possible by anecdote or other mode of conversation. After dinner, one or two hours should be allotted to rest, in the recumbent position, on a hard mattress, or horse-hair sofa; after which the same distance should be gone over, or nearly so. It should be borne in mind, that according to the intention of the pedestrian must be the distance over which he is trained; thus, if he is only preparing for a short race, either running or walking, he need only get himself into good health, and keep in that state by the means I have already described; and, in addition, take two or three hours walking and running exercise per day. More than this has a tendency to diminish the speed, though, if the intention is to train for a long distance, that quality must, to a certain extent, be sacrificed. There is no question that speed is, to a great extent, lost, if the work is kept up more than three or four hours a day, that is to say, speed for one hundred or two hundred yards. But if the object is to attain the highest speed for ten or fifteen miles, then the powers of endurance are to be tested; and the training must be not so much at a top speed for that distance, as at a less pace with occasional spirts for five miles farther at the least. The trainer should be a good walker himself, and should draw out the powers of his pupil by walking against him, taking care not to dishearten him, even if he has the power, by walking a-head; but just stimulating him by competition, and yet keeping up his spirits by allowing him to beat him in the amicable contest. Everything in many cases depends upon mental treatment, and many races are lost by the anxiety which is felt for many days and nights prior to the day of trial. In other animals there is not this knowledge of what is to come; but this is the worst difficulty met with in training men, many of whom will lie awake night after night from a nervousness as to the result. Hence, the trainer should by all means encourage his man, and endeavour to do away with this fear of losing by inspiring confidence in his powers on all occasions.

Training for Running is conducted on similar principles to that for walking, except that it is necessary to avoid too much *running* work in short matches. Here walking must be made the means of improving the general health, and running only adopted for about the length which is to be run. Beyond this, long-continued running makes a man slow, and he is apt to get his hands down, a habit which is fatal to running spirts. The trainer will, in preparing his man for these short matches, make him run daily two or three times over the distance intended; and either run against him *with a start* of a few yards in advance, which gives him confidence, or time him exactly, keeping the result to himself. When the distance is a longer one, it must be done once or twice every day, according to its length, at a good speed, and with all the encouragement and excitement of competition with the trainer. In all cases of training for long distances, at least five or six hours a day must be spent in walking and running, changing from one to the other as a relief during the early part of training; but at last going a little beyond the racing dis-

tance every day, unless that is the very outside of which the man is deemed to be capable, when he will be overworked if he attempt it every day, and he must only do just as much as his trainer thinks he can perform without this injurious effect. Man, however, bears severe work in a wonderful manner; and if the appetite continues good and the sleep is sound, without dreaming or starting, the trainer need not be apprehensive that his man is doing too much.

REDUCTION OF FAT.—It will, I think, generally be advisable, before commencing strict training, to take an ordinary dose of aperient medicine. This may be either castor oil or Epsom salts and senna, commonly known as black draught, or the compound rhubarb pills will answer very well in some persons. If the liver is torpid (which may be known by the pale colour of the motions), then five grains of blue pill should be taken at night, and the oil or draught in the morning, and the same should be repeated every two or three days till the colour becomes of a good brown or yellow. For any other purpose aperient medicine is to be avoided, and it will generally be found that, beyond the first dose, which I think good as clearing off all undigested food, it will seldom be wanted. Some men have such an abundance of fat that they weigh two or even three stone more than they ought to do. The consequence is that not only is all that weight a dead loss, but the fat itself actually interferes with the due action of the muscles, and especially of the heart. Two modes of sweating may be adopted—one natural, the other artificial; but either should be used the first thing in the morning, rising from bed a little earlier for the express purpose.

NATURAL SWEATING is managed by putting on extra clothing over those parts more particularly which are loaded with fat. Thus, if the legs are very fat, two or three pair of trowsers should be drawn on; if the abdomen is full, then a double apron of flannel should be suspended from the neck under the trowsers; and if the arms and neck are loaded, one, two, or three thick Jerseys may be pulled on, and a woollen shawl wrapped round the neck. When thus clothed, a brisk walk, or slow run of a few miles, brings on a profuse perspiration, which may be kept up for an hour or so, either by being covered up with horse-rugs or a feather-bed, or by lying in front of a good fire. At the expiration of this time the whole of the clothes should be stripped off, beginning with the upper part of the body, and sponging each limb with hot salt and water before drying it with a coarse towel, after which Dinneford's gloves should be used freely, and the dressing may be as usual, taking care to expose each limb as short a time as possible. Such is the natural mode.

ARTIFICIAL SWEATING consists in the plan first proposed by Preistnitz, and since then so much used in this country by other practitioners. It is as follows:—The whole body should be stripped and immediately wrapped in a sheet wrung out of cold water, but not so as to get rid of all the water. Then, rolling the patient in a thick blanket, and including the arms, like a mummy, he is to be placed beneath a feather-bed, covering all up to the chin. In a quarter of an hour, or rather more, reaction comes on; and a most profuse perspiration breaks out over the face, and, in fact, over the whole body. Among the hydropathists it is usual to supply the patient liberally with cold water, by small draughts at a time, during the sweat; but for our purpose this is not desirable, because it causes too great an action on the kidneys, thereby weakening the frame considerably. When this sweating has continued for an hour to an hour and a half, everything should be taken off, and cold water poured over the whole body, either by means of a shower-bath or a common watering-pot; then rub dry, and clothe. This artificial mode of sweating is not so likely to give cold as the natural one, and it does not exhaust and tire the frame nearly so much. It also produces great buoyancy of spirits, and it may be graduated much more exactly. It has, however, the disadvantage of producing a liability to boils, which in the rower, are sufficiently annoying without this sweating process. Wherever there is an unusual collection of fat on that part must, in either mode, be heaped a greater amount of clothing, and especially if the shoulders should be clogged and loaded. No one can reach well over his toes if his shoulder-blades are confined, or if his abdomen is too bulky; and the first thing to be done is to sweat down the fat as I have described. Either of the above processes may be repeated two or three times a-week, and they are far better than night sweating by Dover's powder or any of the sweating liquors which formerly were so much recommended.

USE OF SWEATING LIQUORS.—Whatever medicine is taken for this purpose, it would be unsafe either to use cold water next morning, or to expose the body as in rowing; and therefore they are quite

inadmissible in an exercise which positively necessitates exposure of the body. It has been long held that for long-continued or fast work sweating medicine is absolutely necessary; and no doubt many of our best runners have used it. I believe, however, in all cases, the hydropathic wet sheet packing will be found far better for pedestrian purposes. It gives much greater lightness of spirits, more agility of limb, and less tendency to rheumatic stiffness. Let any person make a trial of it, and he will "throw physic to the dogs" ever afterwards, at least for this purpose. It may be used twice, or even thrice a week, before breakfast, and 1½ lb. to 2 lb., or even 3 lb. may be got off each time it is applied. In sweating for pedestrian purposes, the arms and body should be clothed much heavier than the legs. The great object is first to unload the great viscera from all fat interfering with their functions, and next to reduce the absolute weight of the whole body above the hips, including the abdomen, chest, neck, and arms, which are all of little use in walking or running, as compared with the legs. It is very easy to apply the wet sheet exclusively to the trunk and arms, and to clothe the legs only slightly, or only just so much as to prevent a chill. Natural sweating is wholly inadmissible in this kind of training, since it shortens the stride from the quantity of clothing, and makes the pace slow, slovenly, and dull; the choice, therefore, is between the wet sheet packing and a sweat by a scruple of Dover's powder at night, or half-a-pint of whey made with white wine, and with 30 drops each of antimonial wine and sweet spirits of nitre added. This is no doubt a strong sweater, but it upsets the stomach and leaves the skin to be easily chilled. In any case, the whole body should be rubbed with Dinneford's gloves night and morning.

The FOLLOWING DIET will, I think, be found the best for all training purposes, except the reduction of weight for riding, to which I have alluded at page 476, where a great restriction must generally be put upon the appetite:

BREAKFAST.—There is no doubt that the very best food for this meal is oatmeal porridge with the addition of a certain allowance of beef or mutton, and a little bread; but many have the greatest objection to this diet, and never eat it without loathing. For them, I believe, the next best beverage is a pint of table beer, home-made, and not too strong, and giving with it a larger allowance of bread. It is not desirable to stint the appetite unless very enormous, or unless there is a great superabundance of fat; but I believe it will, in most cases be found more advantageous to reduce the weight by work and sweating, than by starvation. The best mode of dressing the meat is to broil it; and here I must say a word about the degree of cookery to which it should be subjected. It is generally directed that the steak or chop should be quite underdone; this, I am sure is a fallacy. In broiling, very little nutriment is lost, after the outside is once caught by the fire. Now, if nothing is lost, there is much gained by keeping the steak on the gridiron till properly done through: for the food is rendered much more palatable to most, and certainly more digestible to all. I have known many who were thoroughly disgusted by their "red rags," as they have called their underdone steaks, and from their dislike to such food, quite unable to digest them. Tea and coffee are not good for training purposes, though I do not think them so bad as is generally supposed, if not taken too strong; cocoa is too greasy, and not so good as tea—which, if taken, should not be green. I am inclined to think, that in those cases where tea or coffee is habitually taken, and porridge or beer is much disliked, it is better to allow them than to attempt too great an alteration in diet. Butter, sauces, and spices should be carefully avoided; and nothing but salt, and a very slight dash of black pepper, used as a condiment.

DINNER.—This important meal should consist of roast beef or mutton, or, occasionally, a boiled leg of mutton may be allowed as a change; but veal, pork, and salt beef or bacon should be avoided; also goose, duck, and wildfowl generally. Roast fowls, or partridges, or pheasants, are very good food. Hare is too apt to be accompanied by high-seasoned stuffing, without which it is scarcely palatable. Nothing is better than venison, when comeatable; but it should be eaten without seasoned sauce or currant jelly. As to vegetables, potatoes may be eaten, but very sparingly—not more than one or two at a meal; cauliflower or broccoli only as an occasional change, and no other vegetable is allowable. Bread may be given *ad libitum*, and about a pint to a pint-and-a-half of good sound, home-made beer. If this does not agree, a little sherry and water, or claret and water, may be allowed with the meal; and a glass or two of the former wine, or of good sound port, after dinner. When the training is continued for any length of time,

and the previous habits of the party have accustomed the stomach to it, I have found the occasional use of white fish—such as cod or soles—a very useful change. Nothing disorders the stomach of man more than keeping to one diet; "*toujours perdrix*" is enough to tire any one even of so good a fare; and this must be constantly borne in mind by the trainer. The round he can make is not very extensive, but let him by all means stretch it to the utmost limits of which it is capable. It is even desirable to give an occasional pudding, but it should always have bread for its foundation. A good cook will easily make a very palatable pudding of bread, with a little milk and an egg or two; and this, served up with fresh green gooseberries boiled, or any common preserve, is by no means disagreeable to the palate, or unwholesome to the stomach; but let it be only as a change, not as otherwise useful. The grand articles of diet are beef and mutton, with bread or porridge; and, if the stomach and palate would accept them gratefully, no change would be necessary; but, as they seldom will, the best plan is not to attempt too much.

SUPPER.—Many trainers object to this meal; but I am satisfied, from experience, that unless the training is of so long a duration as to thoroughly accustom the stomach to the long fast from dinner to the next morning, it is much better to allow a light meal at eight o'clock. Oatmeal porridge is for this purpose the best; and no one will be the worse for a pint of it, with some dry toast to eat with it, or soaked in the porridge itself. I do not believe that meat is ever necessary at night, except in very delicate constitutions, who require unusual support. For such cases I have found a chop at night, with a glass of port wine, or even of egg and sherry, a very valuable means of keeping up the strength. Indeed, it will be found that no absolute rule can be laid down for all cases; and the trainer requires great experience and aptness for his task to enable him to bring all his men out in the same degree of relative strength. Nothing is so likely to destroy a boat's chance as a variable state of condition in the component parts of the crew. It is far better that all should tire equally, than that half should shut up early in the race, while the others are capable of using their full strength. Hence, as I have before remarked, some will require much more liberal and generous diet than others. If, for instance, the habit is gross, and the appetite good, it will be needful to allow only the plainest diet, and to vary it very little. By this precaution, enough, and not too much, is sure to be taken, and the amount of work will ensure its digestion. If, on the other hand, the constitution is delicate, with a want of appetite, want of digestion, and tendency to too great a loss of flesh, then it is desirable to allow considerable change from day to day; and, as far as is prudent, to comply with the particular fancies of the palate. Many stomachs bear port wine well; and in those who have a tendency to diarrhœa it is often indispensable. Others, again, are purged by oatmeal, and this is a sufficient reason for avoiding porridge. In some all the bread should be toasted, to prevent diarrhœa, whilst in others, when constipation is present, coarse brown bread, made from the genuine undressed flour, is a good remedy for that troublesome evil. Whatever bread is eaten should be two days old, and the beef and mutton hung as long as the weather will permit. The best part of the sheep for chops is the leg of a two or three-year-old wether; and for steaks, a well-hung rump or the inside of the sirloin. It is often the practice to allow the crew to put into a river-side tavern during the hours of practice, and take half a pint or a pint of beer or porter each. This plan I am sure is bad; the strength ought never to depend upon *immediate stimuli*, and it is far better to shorten the practice than to keep it up by these means. I am quite sure that in training there are very few who require more than three pints, or at the outside two quarts of good beer per day, of the strength of five bushels to the hogshead; and the average quantity required is certainly not more than two pints and a half per man. Allowance must of course be made for previous habits, and for strength or weakness of constitution. In the early days of practice, and in the race itself, great distress sometimes occurs; there is considerable blueness of the face from congestion, and the breathing is laboured and difficult. The best remedy for this state is a glass of warm brandy and water, and plenty of hard friction on the feet, legs, and thighs; or, if it still persists, a warm bath at 98 degrees.

CHAPTER III.

TREATMENT OF ACCIDENTS OCCURRING IN TRAINING.

BLISTERS OF THE HANDS AND FEET.—These troublesome little companions occur either on the hands from rowing, or on the feet from walking; in both cases without due preparation. They also occur in a still more troublesome situation, either from the thwart in rowing, or from the saddle in riding; but in the latter case only in the very *raw* and young equestrian. Should they arise on the hands, they should be pricked with a fine needle, if this can be done before they have burst. The needle should be inserted obliquely, and the watery fluid contained in the blister should then be pressed out; and this should be repeated as soon as the blister has filled a second or third time. In this way the contact of the air is avoided, and in two days the true skin becomes protected by a new cuticle or scarf-skin. If, unfortunately, the blister is broken, the best plan is to apply some collodion with a brush; but it gives considerable pain, and seldom remains on more than six hours, after which time it requires renewal. If the pain of this is objected to, then apply either finely-carded (medicated) cotton in a thin layer under a kid glove, or finely-powdered gum arabic; but in either case the hands must be kept from water carefully until the expiration of twenty-four hours. If possible, three days should elapse before the oar is again taken in hand; but if the oarsman cannot be spared, a kid glove should be put on over the collodion. When the feet are the seat of the mischief, there is the same necessity for the preservation of the cuticle, and the needle should be used in the same way; if, however, this protection is removed, a piece of fine kid should be spread with soap plaister, and applied over the skin, extending for at least half an inch beyond the blister in every direction. This treatment answers on the feet, while on the hands it is wholly useless, because the friction of the oar soon rubs off the plaister, while under the shoe it remains tolerably well and smoothly applied. Where the blister exists on the seat of honour, in consequence of the friction of the thwart, it is very difficult to manage, and I have seen hundreds of men with their flannel trousers extensively stained with blood from this cause. Collodion is the best remedy, but even that is of little use, and the only plan that I have ever known at all effectual is to wear a pair of tight wash-leather drawers, extending only a few inches down the thighs. If these are made to fit very nicely, and are well oiled with neatsfoot-oil, they will afford astonishing relief, and enable a man with extensive "raws" to row in tolerable ease and comfort; they require, however, to be carefully cleaned and oiled each time they are worn, without which attention they are worse than useless.

CORNS AND BUNIONS. — Blisters are troublesome enough to the pedestrian, but corns are a thousand times worse. The former are only temporary evils, whilst the latter are a perpetual cause of discomfort and misery. Corns are of two kinds, hard and soft; and this distinction is not only dependent upon situation, as some people imagine, for the essence and even the cause of a soft corn are entirely different and distinct from those producing the hard variety. The soft corn occurs only between the toes, and partakes more of a warty character than of that of the true corn. There is really a growth of the cutis or true skin, which shoots up some little sprouts covered with a cheesy matter, and these become exquisitely painful if pressed upon by the adjoining toe. On the other hand, the true or hard corn is simply an effort of nature to protect a part unduly pressed upon; but the effort is carried to an inordinate extent. It is an over secretion or formation of cuticle, which, as it becomes thicker and harder, is again pressed into the inflamed cutis by the shoe, and thus, by acting as a foreign body, aggravates the mischief, and causes it also to react on itself, by increasing the already inordinate secretion of cuticle. Thus these causes act and react on each other, till you often find a deep process or processes of hardened cuticle driven into the skin, and which are often called by the corn-cutter the root or roots of the corn. But it must be understood that these do not grow first, but are the last results of a very obstinate and long-standing mischief. In all cases the corn, first of all, has no root whatever; its growth is from within outwards, but from without inwards, and the term "root" therefore is misapplied. Many tricks are passed off upon the credulous patients of the corn-cutter, by passing off pieces of

quill, or nail, or horn, as extracted from the corn, and often a fee is charged for each root removed. I have known thirty-six guineas charged for as many "roots," extracted at one sitting, and paid, too, for an operation which has afforded only present relief. Bunions are different in appearance and character from either hard or soft corns; they are frequently caused by pressure, but in them the skin is not the seat of the inflammation, but the synovial bag on the inner side of the ball of the great toe, or sometimes on the outer side of the middle of the foot, or on the instep. In all cases they are soft, pulpy, bag-like projections, often, though not always, without hardness or roughness of skin. They are attended with great pain and tenderness, and cause considerable lameness. The treatment of soft corns should be as follows:—With the nail pick off as much of the cheesy matter as can be removed; then, if the next day can be given up, apply a piece of lunar caustic to the surface, rubbing it pretty well in, but avoiding contact with the adjoining skin. After this, keep a piece of carded cotton between the toes night and day, and it will be found that after twenty-four hours' rest all pain will have disappeared, the surface will have lost its moisture, and will have become hard, black, and dry. If the cotton is renewed daily this state of ease will be maintained for a week or ten days; but then it is necessary to pick off the blackened surface and re-apply the caustic, again using the carded cotton. This second application will probably last a fortnight, but by that time the edges of the blackened cuticle become loose, and the application should be repeated; but not, in all probability, till three weeks have elapsed. In this way, by three or four applications, the most obstinate and painful soft corns yield to treatment, and become permanently cured; but the skin between the toes should be kept constantly washed and rubbed with a soft towel, so as to remove every particle of secretion daily. With regard to hard corns, nothing will be effectual as a cure unless the pressure which caused them is discontinued. In that case they require very little treatment; but if it is continued, as it must be when they occur on the sole of the foot, the only remedies are palliative, and require constant and careful repetition. Corn-cutters are constantly holding out certain hopes of a cure, but this is a fraud upon the unwary, and only leads to the picking of their pockets. It is quite true that a skilful corn-cutter will remove, without pain, every vestige of a corn, and will give instant and entire relief; but this only lasts for a fortnight or three weeks, the time varying according to the rapidity of growth in each particular case. Any one, however, who has the use of his hands may readily treat his own corns, if he will attend to the following directions:—In the first place, the cuticle should never be allowed to grow to such a degree as to occasion pain; it should be carefully removed before that time, and the best instrument for its removal is a pair of nail-scissors; with these a small piece of the thickened cuticle should be caught hold of *and raised from its bed at the same time*, then gradually closing the blades, it is removed without any great pain; for if much is given, it is only necessary to raise the scissors still more, and, as it were, drag the corn out of its bed, when the pain ceases, and the excision of that portion is effected. After removing this small slice, another adjoining slice is to be taken hold of and removed in the same way, till all vestige of the hardened cuticle is gone; after which the part may either be covered with a piece of wash-leather spread with soap-plaister, or left to its fate. The former is of course the better plan; but, if the corn is removed as often and as fast as it grows, there is no necessity for adopting it. On the sole of the foot the scissors cannot be used, and this is the most unmanageable situation by far. It is almost impossible for the sufferer to cut these himself, either with a knife or scissors; and he should remove them either, when dry, with a piece of coarse sand-paper fixed on a rounded surface, or, when soaked, with a piece of pumicestone. This treatment will suffice for corns which are troublesome while training; but when rest can be given they should be removed, either with caustic, as described for the soft corn, or with tincture of iodine applied with a paint-brush. In either case the cuticle should be first pared down, and then one or other of the above remedies should be applied; but the inflammation, especially after the second application, is considerable, and rest must generally be given. They are both, therefore, inadmissible in training. Bunions should have two or three leeches applied to them every other day for a week, after which they may be left alone till the bites are well, and then they should be brushed with tincture of iodine every third day. This treatment will generally suffice, but not in very obstinate cases. Such cases, however, are seldom adapted for training, and therefore are not within my province.

BOILS.—These are an effort of nature to get rid of a dead piece of cellular membrane by means of inflammatory action. In consequence of some peculiar condition of the blood, of the exact nature of which little is known, a death (or sloughing, as it is called) of a portion of cellular membrane takes place close under the true skin; to remove this foreign body nature sets up an inflammation, which is invariably of a slow and congestive character. It appears as if the poisonous nature of the slough irritates the surrounding parts to such a degree as in some measure to interfere with the process of absorption, and, consequently, a painful and hardened circle of swelled and reddened skin is formed around the dead cell. In most cases the thickening is so great as to stop the circulation in the interior of the circle and the boil remains stationary for a long time. The only remedy for this condition is either the application of some stimulating greasy application; such as a linseed poultice, or the division by means of the knife. Either of these remedies more or less speedily puts an end to the inactive condition, and then a healthy suppuration goes on to remove the cell, and by throwing up fresh granulations, as they are called, to restore what has been removed. Such is the nature and ordinary treatment of a boil; but in training it is almost impossible to bear the use of the knife, if the boil is on any part which is subjected to much friction. In other situations it may be used, but if a boil occurs on the seat of the rower, as is so often the case, if the knife is used, at least a week or ten days must be lost before the patient can expose the raw surface to the friction of the thwart. Here, therefore, the best plan is to apply a plaister, spread on leather, and composed of equal parts of mercurial and opiate plaister. This stimulates and relaxes the inflamed vessels, and the opiate relieves the pain to a great degree; but even this is only a partial remedy, as without rest it is impossible entirely to relieve boils. To those who are known to be subject to boils I would recommend, as a prevention, the use of a wash of nitrate of silver of the strength of 15 to 20 grains to the ounce. This should be painted over the part every night, and will, of course, turn it more or less black; but it seems to give tone to the vessels, and to prevent that low and congestive state which precedes the death of the cellular membrane; at all events it prevents the formation of boils.

HERNIA OR RUPTURE is a mechanical protrusion of a portion of intestine, and, in the ordinary way, may be either at the navel or at the groin. Wherever it is, it requires the constant use (by day only) of a truss; and all that is required is, that the instrument should be exactly adapted to the part which it has to perform. A rupture may be generally distinguished from other tumours, even by an unskilled person, if the hand is placed upon it during the act of coughing. At the moment when the cough is heard, a strong impulse will be given to the hand, and the hernia will for a moment appear much harder and somewhat larger. This peculiar sensation can scarcely be mistaken, and the sufferer should at once proceed to a good surgical instrument maker, for the purpose of being fitted with a good truss. If he is not already in a position to make a selection from the many who profess to make perfectly fitting trusses, he had better ask his usual professional attendant to advise him, and it is more especially necessary in the country, but if in London he cannot do better than submit himself to Mr. Cole, of Charing-cross, whose trusses are at once the simplest and the most efficient by far of all those with which I am acquainted. They have all the advantages of those so long patented by Salmon and Ody, without their disadvantages, and the only drawback is their price. However, I would strongly advise all those who suffer from this accident to apply to him, if they can muster the necessary sum, as the truss is exceedingly well adapted for all manly exercises, being light and yielding, yet strong enough to bear the most violent strain. Many plans have been propounded for trusses without springs, but they are very inefficient in all cases, and wholly unsuited to our present purpose—viz., that of retaining a rupture in its position during violent action of the body, yet without impeding that action.

HÆMORRHOIDS, or, as they are commonly called, piles, are very often exceedingly troublesome in training; they are generally symptomatic of congestion of the liver, and are relieved by those measures which remove that condition. The reason for this is obvious—the veins which return the blood to the heart from the lower bowels pass through the liver in their way, and consequently, whatever impedes the passage of the blood through them has a tendency to produce the effect on the hæmorrhoidal veins. Hæmorrhoids are, in fact, varicose veins in the rectum, sometimes bleeding, in consequence of their walls giving way; they are also divided into external and internal piles, the distinction,

however, being only one of situation. It will be unnecessary for me to describe the appearance of these troublesome little swellings, as they are so exceedingly common as to be well known to almost every one. In their treatment three points are to be attended to—first, to unload the liver; secondly, to prevent mechanical irritation by the presence and passage of solid fœces; and, thirdly, to allay the inflammation already existing by local remedies. The first and second of these objects may generally be combined, but in very badly congestive states of the liver a dose or two of blue pill must be given in addition to this remedy. It should be avoided, however, if possible, as its *immediate* effect is rather to aggravate than to allay the local irritation. Generally speaking, the following remedy will be the best, acting in the double capacity which I have alluded to:—Take of powdered brimstone half an ounce; cream of tartar and powdered jalap, of each two drachms; powdered ginger, one drachm; electuary of senna, three ounces; syrup of buckthorn, enough to make an electuary, of which one teaspoonful may be taken every night. This quantity should be increased or diminished so as to keep the bowels gently moved every day. When the bowels are usually sufficiently relaxed, but the piles are still painful, then give five grains of the confection of black pepper, with an equal quantity of common pitch, night and morning, made into two pills. As a local remedy, when the irritation is great and recently come on, the use of very hot water with a sponge to the part, two or three times a day, will afford great relief. This should be followed by the application of a little of the following ointment:—Take of gallic acid and finely-powdered opium, of each, one drachm; ointment of acetate of lead, an ounce and a half. When the piles are of long standing these remedies may be used; but, in addition, four ounces of cold water should be thrown up into the rectum immediately before each time that the bowels act. By these methods of treatment piles may almost always be relieved, and generally cured; but on the recurrence of disordered liver, they will be sure to re-appear, and, therefore, that condition must be guarded against.

ACUTE RHEUMATISM is quite incompatible with training, and its treatment need not therefore enter into our present inquiry. Chronic rheumatism, on the other hand, is constantly interfering with severe work, and its attacks are anxiously be avoided. It may be divided into muscular rheumatism and the rheumatism of joints; the former shows itself by the occurrence of pain, often very severe, on the slightest movement or attempt at movement, even of the particular muscle or muscles attacked, which again are generally quite free from pain while quiescent. On pressing upon the muscle attacked great pain and soreness occur, and the seat of the disease may in this way generally be discovered; on the other hand, when in the ligaments around the joints, it requires the joint itself to be moved, either actively or passively, before pain is experienced. Thus, supposing there to be rheumatism of the arm, if the upper and lower arms are firmly grasped so as to fix the elbow, and the patient is told to attempt to bend the elbow, if muscular rheumatism is present he will give himself more pain even than usual; but if the joint only is affected, no pain, or much less than usual, will be felt. During training, whenever the rheumatism is so severe as to require internal medicine, the disease is of such a nature as to demand rest; but it often happens that local remedies will suffice, and this is particularly the case with muscular rheumatism. It is generally in those muscles which are more particularly called into play by the nature of the exercise that rheumatism shows itself, and every time exercise is taken the rheumatic condition only goes off during use, to return with increased activity after a rest. In all these cases prevention is better than cure, and all unnecessary exposure of the body should be avoided, especially if in cold or wet weather. Flannel should be worn next the skin during the day, and after stripping, as in rowing or running, the coat should be put on again without delay. As a local remedy, some one of the following may be tried, and I give them in the order of their severity, beginning with the most mild. First, take of tincture of capsicum half an ounce, spirits of camphor one ounce, tincture of arnica one drachm; mix: on using it add an equal quantity of hot brandy, and rub the part affected for a quarter of an hour. Secondly, take of liquor ammoniæ, spirits of turpentine, laudanum and neat's-foot oil, equal parts; mix, and rub in before a good fire twice a day. Thirdly, take of tincture of cantharides two drachms, flour of mustard half an ounce, vinegar four ounces; mix: this also ought to be rubbed in warm, and it should be used with care, as it sometimes blisters the skin when thinner than usual. Its effect ought to be to cause considerable

pain and redness without any blister, or at all events a very slight one. These remedies will often allay any muscular rheumatism which may occur in training, and I have even known rheumatism, when attacking the joints, subside on the use of the last-mentioned application. As I before said, more severe remedies are incompatible with training.

Varicose Veins.—By this term is meant an enlargement of the veins, generally of the leg, accompanied by a breaking down or insufficiency of the valves which are situated at short intervals along their course, so that the veins bulge out in places, and become much more tortuous than usual. The disease appears to depend upon some natural, or rather congenital, weakness in the structure of the coats of the veins; at all events we know no other cause. Many families are quite exempt, whilst others, again, are almost in every case predisposed to their occurrence. A radical cure may often be effected by the surgeon, but it is not unattended with danger. Still, few of those who suffer from them are capable of going through severe work while afflicted in this way, and therefore, in most cases, either the operation must be done, or all severe training must be abandoned. As a palliative measure, the elastic stocking may be tried, but the heat of the part is so much increased by their use that few people wear them without suffering material inconvenience. In spite of the pain and danger of the operation, I confess that were I subject to varicose veins, I should incur both without a moment's hesitation. In some cases a thin slip of elastic band, about a quarter of an inch wide, may be worn with effect. It should be applied spirally from the top to the bottom of the leg at about two inches interval. This is not so hot as the stocking, and in mild cases acts equally well.

Chapped Hands.—In cold weather rowers are sometimes terribly annoyed by their hands and arms becoming chapped, often to such a degree as to cause them to bleed; and pedestrians often suffer in the same way about the hands, wrists, arms, and behind the knees. For this state there is no remedy to be compared with glycerine, which should be freely smeared over the whole surface which is chapped, by means of a brush or feather. The application may be made night and morning.

VIEW OF A SIX-TON M

AMBETH. P. 525.

FOUR-OARED RACING CUTTER.

PART II.

RACING IN ALL ITS BRANCHES.

BOOK VIII.—AQUATICS, OR RACING IN YACHTS AND BOATS.

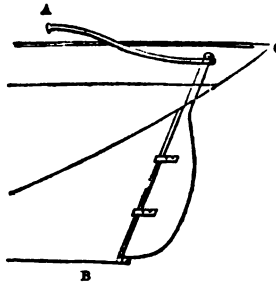
CHAP. I.
CONSTRUCTION AND VARIETIES OF YACHTS.

SECT. 1.—THE HULL.

YACHTS for racing purposes are built almost entirely for speed; and hence their internal accommodation for carrying passengers is generally sacrificed to this particular point. Experiment alone will determine the precise form best adapted for every kind of rig, and very often the trial does not correspond with the preconceived ideas of the builder. At first sight it might appear that it is only to make the bows as sharp as possible, and the velocity will be increased in proportion to the acuteness of the wedge; but then the wind is seldom directly aft, and consequently in all sailing vessels there must be some considerable breadth of beam to prevent the hull heeling over, and thus either upsetting or else presenting a very different waterline to what she does when sitting upright. With this necessity for width comes the question, where shall the greatest breadth be placed?—to which the tyro, in his ignorance, might answer, In the stern—because that would give the sharpest wedge to the water. But it is known by experience that it is no less important to have a sharp stern, or "clean run," as it is called, than a fine bow, or "entrance;" and if the experiment is tried of towing a taper balk of timber or a mast through the water, by each end, one after the other, it will be found that less power will keep it moving with the large end forwards than the small one. In the America, the widest part is at two-thirds of the whole length from the bows; but builders are not all agreed as to the propriety of this rule, and many believe that her extraordinary sailing powers were due more to her sails than to her hull, which has never been capable of doing much with ordinary canvas. The HULL is composed of a backbone or keel, extending the whole length of the vessel, which is first laid down and supported upon blocks. To this, in front, or at the "stem," the fore-post is joined, by scarfing at various angles, according to the lines of the builder, but more or less sloping forwards with a gentle fullness or convexity in the same direction. At the stern, also, the stern-post is united in a similar manner at an angle with the keel; and with varying slopes and convexities, also, according to the lines of the vessel, the floor-timbers and ribs are attached to it, and are securely kept in their places by cross-beams, to which they are firmly united by knees of timber cut out of solid material or forked branches of trees; but in small yachts by bolts only; and upon these beams the deck is supported. In this way the skeleton is formed, the ribs and cross-beams extending at stated and regular distances apart all the way from stem to stern. The next thing is to add the skin or planking, which is either longitudinal or diagonal, the former being the old plan, and the latter the more modern one, which is now becoming general, and has just been introduced in Her Majesty's new yacht with manifest advantage, she being the fastest model afloat. In the longitudinal planking there is generally only an external skin, and the whole strength of the hull is necessarily thrown into the skeleton; but in the diagonal system the planks are placed inside and out, and consequently the skeleton is so strengthened as to allow of a considerable diminution of the timbers and saving of weight. The internal diagonals cross the external ones, and thus the strain is always taken by the longitudinal fibres of the planks in whatever direction it may be; and the most perfect resistance is afforded to longitudinal as well as transverse alterations in form, with the smallest possible quantity of material. The sterns are also built in a circular instead of a

square form, and the diagonals are thus continued from stem to stern-post. Between the internal and external diagonals, and in the spaces between the ribs, blocks of wood and sand are fitted in with marine glue nearly up to the level of the water-line, thus serving as ballast, and also aiding the keel in stiffening the frame. In the KEEL sometimes a centre-board is made to ascend and descend in the middle by a simple contrivance worked in the interior, by which greater stability is given when there is a side-wind, without otherwise increasing the resistance. This is described in the plan of the Black Maria hereafter given. In the fortunate and successful iron yacht built by Dr. Bain, of Blackwall, the keel is a long and very wide coffin-shaped iron chamber, pointed before and behind, and filled with iron or lead as ballast. The DECK is formed by the cross-beams planked, either longitudinally or diagonally, and from the level of it the sides are raised by light timbers called "stancheons," cased outside by stout planks called "bulwarks," and surmounted by a rail called the "gunwale." Some small yachts are only partly decked, called "half-deckers," in which the fore part and sides of the deck are planked as usual, while the middle and stern are left open in ordinary weather, though capable of being shut down by "hatches" in a heavy sea. The cabin sides are raised from the level of the deck by "the combings," on which the hatches rest. The interior of the hull is variously fitted in different yachts according to their size, some having every accommodation which the ingenuity of man can devise, and others only stowing away the crew in shelves or berths as close as pickled herrings in a cask. At the stern of the hull the rudder is attached, which always

THE RUDDER.



consists of a flat board (A B) hinged along the middle perpendicular line to the stern-post, and worked to the right or left either by a simple tiller (A C), which is sufficient for small yachts, or in larger vessels by a wheel, with ropes and pullies attached to it, and running from it to the tiller. When this tiller is moved to the right or "starboard," the rudder is forced in an opposite direction, or "to port," and, as the water rushes against this impediment, it has a tendency to drive the stern in the same direction as the tiller, and by consequence the bows are inclined exactly the reverse. In steering, it must always be remembered that the stern is driven to the right as much as the bows are inclined to the left, or *vice versâ*, and for this allowance must always be made in clearing objects, such as passing vessels, bridges, piers, &c. As the slightest movement of the rudder, more than necessary, has a tendency to stop the way of the vessel, by the extra friction which it offers, the tiller should be kept as quiet as possible, and great care should be taken not to keep yawing a vessel from one side of her course to another, but she should make a "straight wake."

SECT. 2.—THE SPARS AND RIGGING.

Every sailing vessel has at least one mast, and one or more spars; and some have three masts, with a host of yards and topmasts besides; but for yachting purposes there is generally either one mast, constituting what is called "the cutter," or there are two masts, which give to the vessel carrying them the name of "a schooner," or of "a brig."

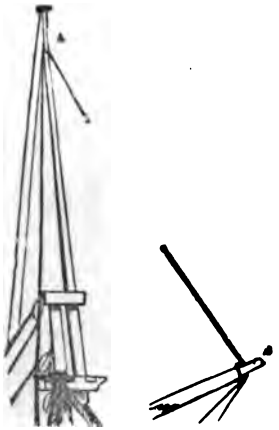
THE CUTTER is shown at page 527, *fig.* 1, with her ropes and spars, and numbers affixed corresponding to the following description:—In the HULL the stem is numbered 1; the stern, 2; the rudder, 32; the anchor is supposed to be concealed at 4; and she is held to it by the cable, 5; the MASTS and SPARS are the bowsprit, 6; the mainmast, 8; the topmast, 9; surmounted by the truck, 10; connecting and bracing the topmast with the mainmasts are the cross-trees, 12; and the trussle-trees, 13, better seen in woodcut of topmast; extending behind the mast above the deck are the gaff, 14; and the boom, 15. The RIGGING is partly "standing," which steadies and supports the masts; and partly "running," to raise and lower the spars and sails. The STANDING RIGGING consists of the bobstay, 7; attached below to the stem, and keeping the bowsprit down in its place, which is still further supported by two posts piercing the deck, called "the bitts," 28; and by a shroud on each side staying it laterally to the bows.

The SHROUDS, 17, are strong side-stays to the mainmast, and are also rigged as ladders, called ratlines, to enable the men to reach the cross-trees; to prevent the mast giving forwards is the runner and backstay, 19, which is kept tight by a pulley; the forestay, 21, keeps the mast from giving backwards. The TOPMAST SHROUDS, 16, stay the topmast sideways; while the TOPMAST STAY, 18, supports it, and also the bowsprit from displacement, the former from driving backwards, the latter downwards. The topmast rises above the mast, and is fixed by the trussletrees, as shown in annexed woodcut; it slides down through them, and may either be entirely brought on deck, or left partially down. In the woodcut of topmast, A is the truck, B end of bowsprit, and the broken line the topmast-stay. The side-stays are better shown in the "Cutter before the Wind," *fig.* 3, page 528.

Fig. 1.

1 Stem.
2 Stern.
3 Situation of Tiller (not shown).
4 Anchor not (shown).
5 Cable.
6 Bowsprit.
7 Bobstay.
8 Mast.
9 Topmast.
10 Truck.
11 Vane and Spindle.
12 Cross-trees.
13-23 Trussle-trees.
14 Gaff.
15 Boom.
16 Topmast-shroud.
17 Main-shrouds.
18 Topmast-stay.
19 Runner and Tackle.
20 Traveller for Jib.
21 Forestay and Fore-halliards.
22 Topping Lift.
24-3 Mainsheet.
25-25 Peak Halliards.
28 Bitts.
29 Signal Halliards.
31 Foresail.
32 Rudder

LARGE CUTTER AT ANCHOR (*a Fishing Smack*).



TOPMAST, FORETOPMAST STAY, AND END OF BOWSPRIT.

SECT. 3.—THE SAILS AND RUNNING-RIGGING.

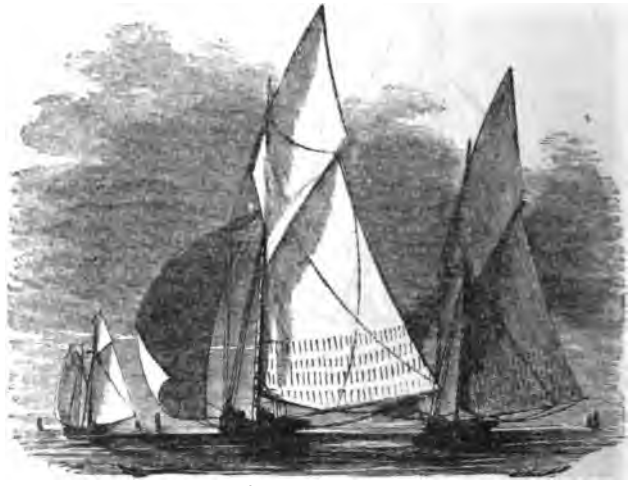
THE SAILS are—the jib and foresail before the mast, the mainsail behind, and the topsail on the topmast. In racing there are also a variety of sails called flying-jibs, &c., which vary with every yachtman's fancy, and are used in very light winds, as shown in the upper department of the engraving at page 530, where a flying-jib is set; they are raised and lowered as follows:—The jib-traveller, 20, allows the jib to run upon it, and that sail is raised by the jib-halliards, and made fast below by its sheets. This is better shown in the fore-shortened view of the cutter (*fig.* 2) in which the jib is not set, but the traveller is shown; and the foresail,

Fig. 2.

CUTTER BEATING-UP.

mainsail, and gaff-topsail in full play. The foresail is raised by its own halliards, and is made fast by its sheet to either side. The main-sail is raised by its throat-halliards, and by its peak-halliards, 25, attached to the gaff; the boom is raised or lowered by the topping-lift, 22, and kept from too much side-motion by the mainsheet (*fig.* 1-3—*fig.* 3-24). In like manner the topsail is raised by its halliards—(see *fig.* 3), where the mainsail is shown so set as to catch a fair wind, the mainsheet being let out as far as possible. The reefs are here all free; but when the wind is too strong for a full mainsail the gaff is lowered, and either one, two, or three reefs are taken in, by tying round the boom a corresponding line of the "reefing points," shown hanging on the lower part of the mainsail; then hoisting the gaff again, the size of the mainsail is proportionally diminished. Sometimes the mainsail has a sheet for each side, but in most cases a single sheet is reefed to a block at each end, and the lower one travels from side to side of the deck on an iron rod called "a horse." The jib has always two sheets,

Fig. 3.



CUTTER BEFORE THE WIND.

but the foresail often has only one travelling, like that of the mainsail on a rod. The topsail has only one sheet, which is rove through a sheave in the end of the gaff, and a block at its throat, and then comes down to a cleat on deck, where it is made fast.

SIGNAL-HALLIARDS (*fig.* 1, 29) are for hauling up the colours, and pass through a small sheave in the truck, 10, at the top of

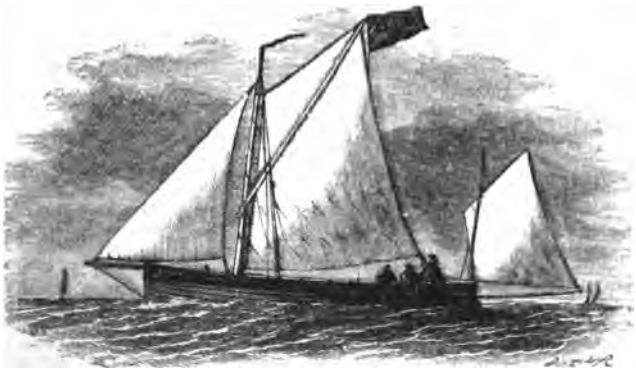
the topmast. The ENSIGN HALLIARDS are reefed through a small block at the end of the peak, and lead down to the boom, as shown in *fig.* 3.

IN THE MODEL YACHT which appears in the sketch, giving a view of Mr. Wyld's yard, all the spars and rigging are shown of the proportions adapted to light-racing craft. The difference between her rigging and that of the ordinary smack, as given in *fig.* 1, will appear to be very remarkable in point of length of spars and lightness and simplicity of standing rigging. She has usually only a mainsail, foresail, and gaff-topsail, but can rig a jib-boom.

SECT. 4.—VARIETIES OF YACHTS.

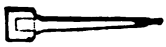
THE MODEL YACHT, or half-decker, as it was called until lately, is from three to ten tons admeasurement; and is, consequently, only adapted for river sailing or for quiet weather in the open sea. London, Liverpool, Southampton, and the Isle of Wight are the principal rendezvous of these little playthings; in which localities they abound, and where there are several clubs especially devoted to trying their capabilities. From their small size the cabin is obliged to be left partially open, because there is not standing-room beneath the deck; and though they are sometimes fitted up with berths, these are very confined, and seldom more than just sufficient to contain the crew closely packed. In case of being overtaken by stormy weather there is a hatch or cover for the open cabin, by which the boat is prevented from swamping in a heavy sea; and the men have then only to hold on, and take care that she is not blown over by carrying too much canvas. The hulls are of every imaginable form, suited to the fancy of the builder; but the rigging is almost always of the most simple style, in order to allow of its management by two or three hands, or four at the most. (See engraving of model yacht.) The rig suited to very small river boats is that shown in the following woodcut.

Fig. 4.



OPEN SAILING-BOAT.

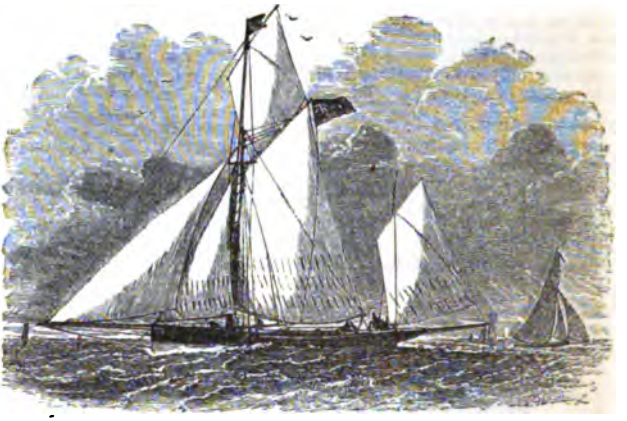
This kind of open sailing-boat has a mast capable of being shipped and unshipped, or of being lowered on a hinge to pass under bridges. There are only two sails, a foresail and a mainsail: the former being triangular, and extending about a foot beyond the bows by means of a dwarf bowsprit of iron, capable of being shipped or unshipped. (See woodcut.) The mainsail is used with a very light gaff, extended by a stretcher from the heel of the mast instead of by halliards from the trussle-trees. This stretcher is hoisted by a rope passing through a block and pulley at the throat of the gaff, and all can be readily brailed in half a minute. This rig may be easily managed by a couple of hands.



THE DANDY-RIGGED CUTTER is the next in point of size and complication, in which the mast is generally a fixture, though sometimes it is made to lower. Her

spars are a mainmast, topmast, bowsprit, gaff, and topsail-yard, also the mizen-mast with its additional spars, similar to those of the last described boat. The sails are the mainsail, topsail, jib, and fore-sail, and the mizen-sail projecting beyond the stern. There is generally no boom, because in these small open deckers there is seldom room for it to play clear of the men on deck; and also in order to enable the mainsail to be brailed, which can be done more quickly and by fewer hands than the operation of lowering the gaff upon the boom as in the cutter.

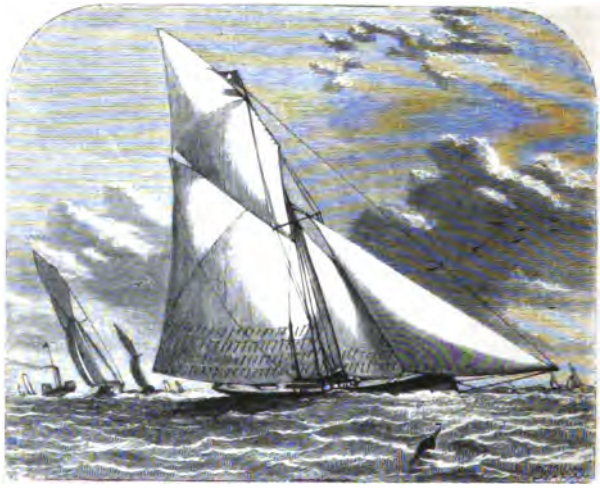
Fig. 5.



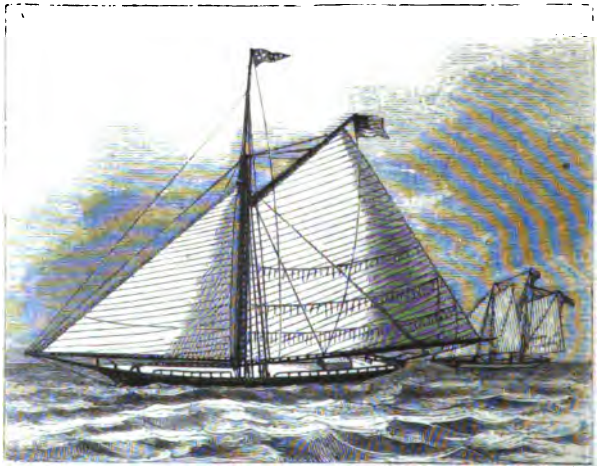
DANDY-RIGGED YACHT.

THE ORDINARY CUTTER YACHT has been already described as being the most common style of racing yacht, and the type from which all others are derived. In the upper division of the annexed view of Yachting subjects, an English racing-cutter yacht is represented in a match, with her sails cut in the English style, and the usual bellying of them very well shown. I shall now insert a description of the latest invention of our transatlantic brethren, which is said to beat the world in a light wind.

THE AMERICAN YACHT, the Black Maria (see sketch), embodies all the latest improvements of our clever rivals in naval architecture. She is built entirely for speed, and her internal accommodation does not correspond with her size, which in an English built yacht will allow of every luxury. Mr. Murray, who has recently visited the United States, was allowed to inspect her minutely, and he has furnished a detailed account of her proportions, which is here introduced as being in striking contrast to those of our English flyers, especially in the canvas, which, though covering a much larger area, is not nearly so lofty as ours. She is the property of her builders, Commodore Stevens and his brother, who designed her entirely themselves. Mr. Murray, at page 109 of his recently published *Lands of the Slave and the Free*, says of these gentlemen:—"The gallant commodore was kind enough to trip his anchor and give me a short cruise. Unfortunately there was scarcely a breath of wind, but even under the influence of such scanty propelling power the way she shot through the water, like a dolphin in full cry, was perfectly marvellous; and the ease with which she came round, and the incredible distance she shot a-head in stays, was, if possible, more astonishing still; she steered as easy as a jolly-boat; or if when running a puff made her refractory, by dropping the after centre-board she became as docile as a lamb. My only regret was that I could not see her under the high pressure of a good snorter. Of course any salt-water fish will long since have discovered that this wonderful yacht is a leviathan plaything, and totally unfit to withstand the most moderate gale, especially if any sea were running. What she might do if she were sparred as other



ENGLISH RACING YACHTS.



THE BLACK MARIA. P. 530.

vessels of her tonnage usually are, I cannot pretend to say; but my yachting friends need never expect to see her with her present rig re-enacting the America—hurling friendly defiance at the R.Y.C., and carrying off the crown of victory in their own waters. The accommodation on board is not nearly so great as in an English yacht; partly owing to the little height between decks, consequent upon her very small draught of water, and partly owing to the great space taken up by the case for the centre-board; besides which, it should be remembered, that a yacht is not used as a home in America in the same way as in England. The great, and I might almost say the only, quality transatlantic yachtsmen care about is speed; and I think my yachting friends at Cowes must admit that they have proved that they know how to attain their end, and that Mr. Steers, the builder of the America, is second to none in his craft; unless the Black Maria some future day assumes a practicable rig, and crossing the Atlantic, carn the victor's laurels; in which case Steers will have to yield the palm to the worthy fraternity who are at one and the same time owners, builders, and sailors of the subject of this chapter."

The following are the dimensions, as given in the same volume, of

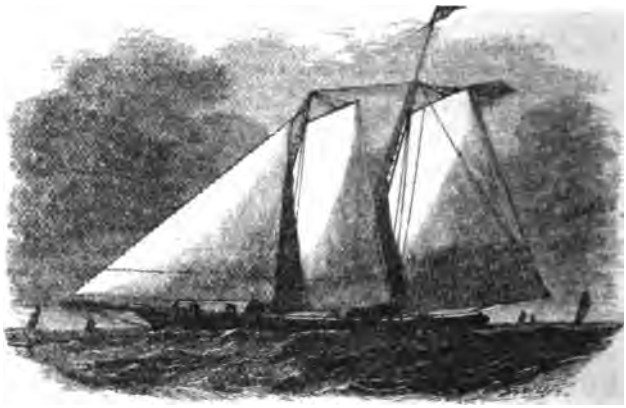
"THE CUTTER YACHT, BLACK MARIA.—Displacement, 145 tons; draught of water on straight keel, 5 feet 2 inches; length of straight keel, 60 feet—then running away in a curving line upwards, till at the bow it draws 10 inches; length of centre-board, 24 feet; total depth of ditto, 15 feet; weight, 7 tons; foremost end of ditto, about 8 feet abaft the foremost end of straight keel. When let down it descends 10 feet at the after end, and 8 feet at the foremost. It is made of oak, with sufficient lead let in to make it sink. By an ingenious mechanical contrivance one man is enabled to raise and lower it with perfect facility. In case the term 'centre-board' should be unknown to my readers, it may be as well to explain, that it means a board passing longitudinally through the keel, above which a strong water-tight case is fixed for its reception; it is raised and lowered by hand or by machinery, according to its weight. The advantage proposed by the centre-board are—the stability it gives to the vessel on a wind when let down; the resistance it removes, if, when running before the wind, it be raised; the small draught of water the vessel requires, thereby enabling her to keep close in shore, out of the influence of strong tides, &c., and, lastly, the facility for getting afloat again, by merely raising the centre-board, should she take the ground. There is another centre-board abaft, about 10 feet from the stern, which is 8 feet long, with a total depth of 9 feet, and, when down, extending 5 feet below the keel. Length over all, 113 feet. The extreme beam is 26½ feet, at 40 feet from the rudder-post, running aft to about 19 feet at taffrali; forward, it decreases about 20 inches when abreast of mast, thence runs away sharp to about 4 feet at the bow. The mainmast is placed about 5 feet abaft the end of straight keel; it is 92 feet long; housing, 8 feet; the diameter in the fasteners is 32 inches, tapering off to 23 inches at the boards. The mast is made of white pine, the centre of it is bored out, for the lowest 20 feet, about 12 inches diameter. The next 20 feet, 10 inches diameter; the next 20 feet, 8 inches, and the remainder 7 inches. This was done to make the mast lighter, and, by the circulation of air, enable it to season itself. The main-boom is 95 feet long (the largest boom in the navy is 72 feet long, and 16½ inches in diameter; the largest mast is 127 feet 3 inches long, and 42 inches diameter; the largest yard is 111 feet long, and 26½ inches diameter) and made like a cask; the staves are 31 in number, of white pine, 2½ inches thick; the staves are of different lengths, so as to vary the points at which they respectively abut. The extreme length of boom is obtained by two lengths of the staves; small cogs of wood are let in at intervals, half in one stave and half in its neighbour, so as to keep them from drawing, the whole bound together with strong hoops fitted with screws. The extreme diameter of the boom is 26 inches where the sheets are fixed, tapering off at the jaws, and 18 inches at the boom-end. To give additional support to the boom, an outrigger, extending about 3 feet on each side thereof, is fixed where the boom-sheets are placed, and a strong iron brace extends from the jaws through the outrigger to the boom end. The gaff is of spruce, 61 feet long, and 9 inches diameter. The bowsprit is of white pine, 38 feet long, 18 of which is outboard, the remainder comes under the deck, is let into each beam, and abuts against the bitts; it is 24 inches diameter, and bored out like the mast, from 10 inches diameter at the nest to 7 at the end. The jib-boom is made of two pieces of yellow pine, grooved out and hooped together; it is about 70 fe ı long and 8 inches in diameter; the foot of the jib is laced to this spar on hooks, when required. The mainsail is made with the

seams horizontal, to avoid the resistance perpendicular seams in so large a sail would offer to the wind. It has been calculated, that the resistance of perpendicular seams in a sail of this size is equal to that of a plank 10 inches broad and 60 feet long, placed on end broadside to the wind. The luff of the sail is 66 feet, the foot 93, the head 50; the head and foot of the sail are laced to battens under gaff and on boom; the luff is brought to the mast by a contrivance as original as it is perfect: two battens are fixed on the after part of the mast, about an inch and a half apart; the inner parts shod with iron, and rather broader than the exterior opening, to each eyelet-hole of the sail a strong brass-plate is fixed, having four rollers traversing fore-and-aft, and two transversely. These plates, as the sail goes up, are slipped into the grooves of the battens, the rollers preventing friction, and the battens keeping the luff fixed to the after centre lining of the mast. Without this ingenious arrangement the huge mast would, if on a wind, becalm at least three feet of the sail. Three levy-jacks are fitted to support the huge mass of canvas when lowering the sail.

"The jib is 69 feet in the hoist, and 70 in the foot. The bobstays are of solid iron running 8 feet on each side of the keel, and going through a strong iron cap over the bowsprit end, where a strong iron washer being put on, they are securely fastened with a nut.

"It will be seen there is a slight discrepancy between some of the measurements I have given and those which are marked on the print. I place confidence in those I have received direct from the fountain-head; the difference is, however, so trifling as scarce to need any notice. I regret omitting to obtain the length of the after-leech of the mainsail, and of the head of the jib; but I think the print, which I believe to be very accurate, would justify me in concluding that the former is about 110 feet, and the latter about 120 feet. Assuming these calculations to be correct—and they cannot be very far wrong—the mainsail would contain about 5790 square feet, and the jib about 2100 square feet. When it is remembered that the largest sail in the British Navy only contains 5480 square feet, some conception may be formed of their gigantic proportions."

Fig. 6.



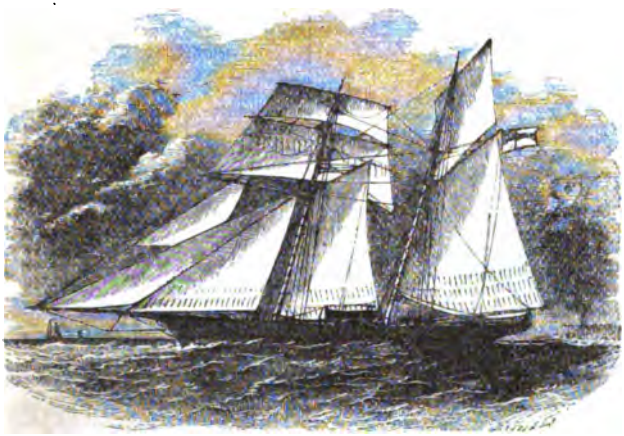
THE AMERICA.

THE SCHOONER is also used in yachting, and several of our fastest and best vessels have been of this rig. It is here represented under the form of the America, which was so successful in the Solent in 1853. The bow of this vessel is very peculiar, and her greatest breadth of beam is two-thirds from her stem. Her sails, when under American hands, were always trimmed quite flat, and more like boards than our ordinary bellying sails: and it is in this respect that the sails of the two countries so much differ. New York is celebrated for her sail-makers; and it is maintained by the Americans that

their materials and workmanship are superior to anything turned out on this side of the Atlantic. It will be seen that the general proportions of the canvas are much more like those of the Black Maria cutter than of our usual rig, and consequently there is not near so great a leverage on the hull, and yet the area of the canvas is very great. Besides this advantage, which permits of a narrower hull, the schooner is also capable of going before the wind to better advantage, because she can set her two mainsails on opposite sides, and thus balance the one against the other, by running "duck-winged," in nautical language. These yachts sometimes are built of 200 tons, or even more, but for racing purposes they are generally 150 tons.

The LARGER KINDS OF YACHTS are rigged as schooners, with square foretopsails and topgallant-sails (*fig.* 7.). But these are chiefly used as pleasure yachts, and not often for racing purposes.

Fig. 7.



TOPSAIL SCHOONER YACHT.

CHAPTER II.

SAILING.

SECT. 1.—THE MARINER'S COMPASS, AND NAUTICAL TERMS.

THE MARINER'S COMPASS, by which the ship is guided when out of sight of land, is a most extraordinary and providential adaptation of a natural law, which orders that a magnet shall always point *nearly* due north. In various localities on the face of the globe it points a certain number of degrees to the east or west of north; but the precise "variations" are marked down on all the charts, so that the master can always make the necessary allowances; though sometimes it unfortunately happens that there is some inexplicable error which leads him astray, and causes an accident that it is impossible to foresee. To avoid these dreadful risks, every compass should be carefully compared with a standard or correct guide, and in important ships they are always swung exactly north and south, and their compasses regulated accordingly. The needle is suspended with great delicacy, attached to a card marked with the thirty-two points, into which the horizon is divided; and the telling off these glibly is called "boxing the compass." The needle and

card are contained in a box glazed on the top, and placed within view of the steersman in a receptacle called "the binnacle," lighted at night by a lamp. In front of the compass is a black line, which the steersman is directed to keep exactly opposite the point of the compass by which he is ordered to steer, the master making his calculations for variation, and then giving the course which the steersman is to keep exactly in accordance with the compass. Thus, when the course by compass is due south, the steersman keeps the point marked S exactly opposite the black line, but the vessel actually sails so many degrees to the east or west of it, according to the variation marked on the chart at that particular spot.

THE NAUTICAL TERMS in common use, besides those before given, are as follows, omitting those whose meaning is clearly intelligible to all who speak English:—

Avast means stop.

Athwart—Across.

Ballast is iron, lead, or stone placed in the bottom to steady the vessel.

Bearings—The direction of a vessel per compass.

Belay—Make fast.

Bend—Attach; as a sail to the yard, or a cable to the anchor.

Bunting—The material of flags.

Buoy—a floating mark.

Capstan—A machine on deck round which the cable is wound, by means of the capstan bars worked by the men.

Cathead—a piece of wood projecting over the bow, with a sheave in it, through which the anchor is hoisted.

Cleats—Perpendicular hooks pointing up and down, for belaying ropes.

Combings—The raised sides of the hatchways.

Companion—The ladder going down beneath the deck to the cabin.

Davits—Iron rods for projecting the boat over the side to lower her.

Draught—The depth of the vessel under water.

Fenders—Pieces of rope and junk to ward off pressure from the sides.

Fore-and-aft—Lengthwise of the vessel.

Forecastle—The part before the mainmast.

Foul anchor—When it has a turn of the cable round it.

Gangway—The open part of a vessel's bulwarks for passing out.

Gaskets—Pieces of rope used to tie round the sail and yard when the former is furled.

Grapnel—A small anchor.

Hatchway—An opening in the deck.

Hatches—Its covering.

Hawser—A large rope for towing.

Helm—The steering apparatus.

In stays—The time between the letting fly of the jib-sheet and the drawing of the foresail.

Jib-boom—A spar projecting beyond the bowsprit.

Jury-mast—A temporary mast.

Log—A journal of the proceedings at sea.

Log (patent)—A line thrown from the stern to ascertain the rate of sailing by a minute glass.

Luff—Steer nearer to the wind.

Lurch—A roll on one side.

Marling-spike—A pointed iron pin to separate the strands of ropes in splicing them.

Martingale—A short upright spar under the bowsprit.

Missing stays—Failing in going about.

Oakum—Old rope picked to pieces.

Pendant—A long narrow flag at the mast head.

Port—Left.

Quarter—The side of the vessel from the middle to the stern.

Quarterdeck—The part of the deck between the quarters.

Scudding—Running before the wind without sail, or only a foresail, to keep a steerage.

Splicing—Joining two ropes.

Starboard—Right.

Staysail—A sail hoisted on a stay.

Steerage—The fore part of the ship beneath the deck; also, the effect of the rudder on the course.

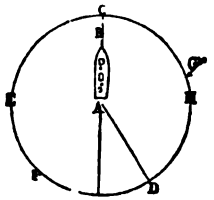
Tack—To make a decided change in the course without wearing. (See page 535).

Taut—Tight.
Throat—The butt-end of the gaff which clasps the mast.
Unbend—To untie, as the sails from the spars.
Unmoor—To cast off the fastenings which held the ship.
Waist—The part between the quarterdeck and forecastle.
Wake—The path which a ship makes behind her.
Wear—to come round in the opposite direction to tacking.

Sect. 2.—Sailing the Yacht.

The Number of Hands required for sailing a yacht will depend upon the tonnage and rig. In a small model yacht or cutter, or in a schooner, a hand to each sail, besides the steersman, can manage her pretty well. Beyond this, one hand for every five tons is the usual racing complement; but for pleasure yachts these are more than will be required. In making a start, it is first of all necessary to see that everything is ready for the hand, and that the halliards, &c., are all coiled in their places. Next, cast loose all the gaskets, haul the jib out on the bowsprit, and get all the halliards ready for hoisting. Then hoist the colours, and the men should stand by the halliards and wait for orders. Now, supposing that the yacht is "swinging ebb," on the turn of the tide, and that the wind is up stream, the orders will be as follows:—"Hoist the mainsail throat and peak halliards," which is done by straining on the throat halliards first till they are home, and then on the peak till they are taut. This sets the mainsail, and the vessel's head swings round to the wind. Next, "hoist the foresail and jib," and when they are taut also "haul in the sheets." Now coil up all the ropes, cast off from moorings, slacken the mainsail-sheet, haul in the jib-sheet on the contrary tack to which you intend to sail, and the yacht is under weigh.

Beating-up is the process of sailing against the wind, by making zigzag approaches to the point from which the wind blows, thus having the wind always on the quarter; and, when the wind is against the boat, this is what must be done. A vessel is on the starboard tack when the wind is blowing on the starboard quarter, which is called the weather side, and the opposite one the lee side. If the wind blows on the port side she is on the port tack, when the port side is the weather side, and the starboard the lee. When in steering she is brought nearer to the wind, she is said "to luff;" and when further from it, "to bear away." When the helm is altered so as "to luff," it is "put up;" when to bear away, it is "put down," or "a-lee." The next thing, in order to "beat up" with the tide or stream, is to haul the jib-sheet well in, put the helm up, and sail as close to the wind as possible, always taking care that the sails are full, which may be known by their not shivering, on the least appearance of which the helm must be put down directly. Hence, the steersman is obliged to watch his vessel's sails most carefully, and be guided by their appearance as to his course. But we are now supposing a river-sail, and he must also look out for the opposite shore, and when near it prepare to tack. If the yacht is handy in coming round, he will wait till close to shore before he makes this evolution; but if otherwise, or the banks are very shelving, he will begin in good time. Tacking is managed as follows:—The canvas being first seen to be full, the mainsail-sheet is hauled till the boom is amidships, when the helm is put gradually down. As soon as she is head to wind, let fly the jib-sheet; and if on the starboard tack, haul in the port fore-sheet taut (called backing the mainsail, because the wind, by filling the foresail, assists the mainsail in bringing her round. As soon as she begins to fill on the other tack, cast off what was the port, now the weather fore-sheet, and haul in the lee, and also the jib-sheet, and trim the mainsail by the sheet according to the wind. If when the boat is "in stays," or head to wind, she moves neither way, put the helm amidships; if she moves back, put the helm the contrary way to what it was before, resuming the previous steerage as soon as she stirs again. If the wind gets round more on the beam, or across her, slack out the canvas, and the more aft, the more the sheets must be let out. Wearing differs from tacking, in coming round as follows:—



Let A B be the vessel; G F the direction of the wind. The vessel is sailing in the direction B C, and wants to change to a line parallel with A D. If she tacks, she traverses

round C H D; but if she wears, round C E F D; and in this last manœuvre very little alteration of the sails is required, the vessel simply steering round, but losing considerably in point of position with reference to her intended course.

THE RULE observed in meeting other vessels must be strictly attended to for fear of collisions, which are dangerous things on the water. The chief rule is, whichever vessel is "running free" must make way for the one "close-hauled"—that is, sailing as near the wind as possible; and as the one before the wind can alter her course easily, while the other cannot, this rule is founded in justice and general convenience. (For other regulations, see Rules of Yacht Clubs.)

JIBING will be necessary in rounding a sharp point, and this is one of the most difficult manœuvres in sailing, for in effecting it there is danger of running on shore, from "broaching to," or of some of the men being swept overboard by the boom, or, lastly, of the spar snapping. The plan of proceeding is, first to give the shore a wide berth, then take a pull at the main-sheet, and keep it clear to run out rapidly; next trice up the tack of the mainsail, and if there is a strong breeze, lower the peak; now put your helm about—that is, to the opposite side to which the boom swings, and at the instant when the mainsail has traversed in consequence change your helm back again, and meet her, by which the "broaching to" will be avoided.

IN RUNNING FREE, or before the wind, very little art is required, except to know how much sail to carry with safety, and also what will best suit the sailing powers of the particular vessel. The peak should not be too high, nor the back of the mainsail fast, but raised slightly by the lift, so as to let the wind into her head-sails. If the tide is against the vessel, she must, of course, be kept as much as possible in the slack. When the wind is quite fair, in a small schooner the two mainsail-sheets, may be hauled in opposite directions, and let out till the booms stand at right angles with the hull. A spare spar is used for the fore-mainsail when it is not rigged with a boom, as it often is not, because for a side wind it admits of more canvas without a boom than with one.

ANCHORING OR MOORING is not so simple as it looks, and requires considerable skill to manage it safely, and in a seaman-like manner. The anchor being first got on deck, and the cable bent to it, by the shackle, it is then suspended over the bowsprit-shrouds, and lashed ready to let go. Now, lower the head-sails, put down the helm till she is dead to wind, and when she is lying-to, drop the anchor. Next trice up the mainsail, lower the peak, and, with the helm according to the set of the tide, she will lie quite snug. In bringing a vessel to her moorings, if the tide is with her, it is best to round her to, about a hundred yards short of them; and when head to wind, lower the mainsail, leaving the head-sails standing; this, with putting up the helm, will bring her head round again; then take in the jib, and if she has way enough, the foresail also; after which she may readily be steered in. But if the tide is against her, she may be steadily, and with ease, brought up at once to her moorings.

IN STARTING WITH A FAIR WIND, haul the cable short, get all the canvas ready for setting as before, weigh anchor, and then set the foresail and jib first and the mainsail after.

IF A SQUALL IS EXPECTED, from the appearance of the clouds, and from the peculiar dark ripple on the water towards the "wind's eye," keep the vessel well full, that as she is struck, she may have good way on her, and to avoid the danger of capsizing. Then, as soon as possible after the squall begins, luff into the wind; and if she does not seem able to bear her canvas, let go jib and fore-sheets; if that is not enough, cast off the mainsheet, and send a hand to the fore and jib halliards, which must, if necessary, be let go. Next, reef the mainsail, but allow plenty of room for driving to leeward; to do this, set taut the "topping lift," lower the halliards, both peak and throat; then hook the reef tackle to the earing, tie the reef points, either of the first, second, or third reef, according to the necessity of the case; after which the halliards are hoisted again, the mainsail is set, a smaller jib is hoisted, the fore-sheet is drawn in, and the storm must be weathered as well as the yacht can bear it. In every case the young owner of a yacht ought never to undertake her management without competent hands on board; and, with their aid, he will learn more by practical demonstration than any description here given can possibly afford. It is useless, therefore, to attempt more than to give the theory of the more simple operations, as above, and the more complicated details must be obtained from an experienced yachtsman.

SECT. 3.—REGATTAS FOR SAILING-VESSELS.

SAILING REGATTAS are held in many of

our rivers and lakes, but chiefly at Cowes, Kingstown, and other seaport towns. They are under the management of a committee, stewards, and secretary; and, generally, a commodore is appointed to conduct all the sailing operations. A course is marked out, and the vessels must sail under certain conditions specified. There is often an allowance of time for tonnage, varying with the distance and with the size of the yachts, averaging half-a-minute per ton; and in most matches there are restrictions as to the amount of tonnage. Acker's signals are generally in use.

Sect. 4.—Yacht Clubs and Rules.

The Yacht Clubs of the United Kingdom may be divided into those whose matches are chiefly confined to rivers, ex. gr., the Thames and Mersey, and those who sail Channel or Ocean matches. Of course there is a necessity for varying the sailing regulations in the respective cases, and I therefore append an example of each, commencing with the

Laws of the Sea.

1. *Opposite tacks.*—Yachts on the *port tack* must give way to those on the starboard tack, and whenever a doubt exists of the possibility of weathering the one on the starboard tack, the one on the port tack *shall give way*; if the other keep her course and collision occurs, the yacht on the port tack shall pay all damages and forfeit all claim to the prize.

N.B. The yacht on the starboard tack should *never bear away*; but if she is obliged to luff to avoid the other yacht, the one on the port tack (so obliging her to luff) loses all claim to the prize.

2. *Going free.*—Yachts going *free* are invariably to give way to those closehauled.

3. *Meeting.*—Yachts meeting must put their helms to *port*, to avoid collision; and, in case of accident, the one that shall be proved not to have acted according to this rule is to pay all damages and forfeits all claim to the prize.

The Sailing Regulations of the Royal Thames Yacht Club.

Article 1. *Management of matches.*—All club matches and all yachts sailing therein shall be under the direction of the Commodore and Vice-Commodore, or President for the time being, who shall be the judge of all the sailing matches, and shall award the prizes to the yachts which may be entitled thereto; the judge, in the event of any doubt or dispute, may, if he should think it desirable, defer the presentation of the prize, and refer any question arising out of the match to the Sailing Sub-Committee, whose decision shall be final. In the event of both Commodore and Vice-Commodore having yachts entered for any one match, or being prevented from attending, the said Committee shall appoint a member not having a vessel entered, to act as President of the match; such appointment to be made at the time the entries are taken, if possible.

2. *Distinguishing colours.*—All yachts sailing in a match shall have a proper distinguishing colour of not less than the following dimensions, viz.: for the first and second class yachts, 2 feet in the hoist, by 3 in the fly; and for the third and fourth class yachts, 18 inches in the hoist, by 27 inches in the fly; to be carried at the top-mast head, unless it should be necessary to strike the top-mast, when it may be carried at the mast head, or at the peak; such colour to be the distinguishing flag of the yacht, during the time she may belong to the club.

3. *Measurement.*—Every yacht entered to sail in a match, shall, previous to starting, be measured, agreeably to the mode specified in the following rule, by or under the inspection of two members appointed by the Sailing Committee; that such two members shall sign a certificate of her measurement so taken, which shall be considered her true measurement, for all purposes of the club, until an alteration be made in the said yacht.

4. *Tonnage.*—The tonnage of yachts eligible to sail in matches for prizes given by the club shall be as follows:—

1st Class exceeding 35 tons.
2nd Class exceeding 20 tons and not exceeding 35.
3rd Class exceeding 12 tons and not exceeding 20.
4th Class 7 tons and not exceeding 12.

The measurement for the purpose of ascertaining such tonnage shall be taken in the manner following: the length shall be taken in a straight line at the deck, from the fore-part of the stem to the after-part of the stern-post; from which deducting the breadth, the remainder shall be esteemed the just length to find the tonnage, and the breadth shall be taken from the outside of the outside plank, in the broadest part of the yacht; then multiplying the length by the breadth so taken, and the product by half the breadth, and dividing the ground by 94. the quotient shall be deemed the true tonnage; provided always that if any part

of the stem or stern-post project beyond the length taken as above-mentioned, such projection or projections shall, for the purposes of finding the tonnage, be added to the length taken as before-mentioned, and that all fractional parts of a ton shall be considered as a ton. The measurement to be taken either above or below the main wale; such wale shall not exceed nine inches in first-class vessels, or four inches in second and third class vessels, and the thickness of the wales shall not exceed two inches in vessels above twenty-five tons, or one inch, in vessels below that tonnage.

5. *Entry of yachts.*—If only two yachts are entered, or if only one yacht starts, no prize will be given.

6. *Payment of subscription.*—No yacht whose owner, or owners, or any of them, shall not have paid his or their subscription, or shall owe any sum to the club, shall be allowed to enter or sail in any match of this club; and should such yacht be entered and sail, she shall forfeit all claim to the prize, provided such objection is made previous to her starting.

7. *Ownership.*—No yacht belonging to more than one owner, shall be allowed to sail in any club match, unless each, and every owner of such yacht be a member of the club.

8. *Fees on entering for matches.*—One shilling per ton shall be paid on entering a yacht to sail in a match, and the amount shall be returned to the owner of any vessel which competes for the prize.

9. *Stations.*—The owners of yachts entered to sail in any match shall draw lots for stations; and No. 1 shall at all times take the southward station of the line, the other yachts following, in numerical order; and all yachts shall go to their stations *within one quarter of an hour* after the notice given by the Vice-Commodore or Officer appointed, or shall not be allowed to sail in the match.

10. *Starting yachts.*—The yachts shall start from buoys, either in one or more lines laid down for that purpose, under the direction of the Vice-Commodore of the Club, or President of the match.

11. *Sails to be carried by cutters.*—Cutter-rigged yachts shall not carry more than four fore-and-aft sails at one time; no jib shall exceed two feet in the head, or be hoisted above the main mast head, or be boomed out.

12. *Sails to be carried by schooners.*—Schooners shall be allowed to carry the following sails, viz.: main-sail, fore-sail, one or two fore stay-sails, jib, jib-top-sail, main-gaff top-sail, fore-gaff top-sail, or fore-square top-sail and top-gallant sail, or main topmast stay-sail.

13. *Fouling.*—If in any of the matches of this club, any yacht shall wilfully foul another sailing in the same match, the member in command of such yacht so fouling, upon being declared guilty of the same by the Sailing Committee, shall be liable to be *expelled* by a general vote of the club, and the yacht shall forfeit all claim to the prize.

14. *Crews and members to be on board.*—Every yacht sailing in a match shall have some member of this club on board, who shall be held fully responsible for the vessel being sailed in accordance with the rules and regulations of the Royal Thames Yacht Club. *Cutter* yachts shall not have on board more than *one* hand for every *five* tons and a fraction thereof, exclusive of the owner, master, pilot, and *four* friends. *Schooner* yachts shall not have on board more than one hand for every seven tons, and fraction thereof, exclusive of the owner master, pilot, and *six* friends. Members, winning a prize, are requested not to give more than 10s. 6d. gratuity to each of the crew, or to the extra hands.

15. *Hoisting sails.*—No yacht shall hoist any sail *before* the second gun has been fired.

16. *Sliding keel.*—No sliding keel is allowed.

17. *Shifting ballast prohibited.*—No ballast must be shifted during a match; no water ballast is allowed; no bags of shot or other ballast *prepared for shifting is allowed to be on board;* all ballast shall be under the platform, or in lockers, and the platform and lockers shall be sealed down by a person appointed for the occasion by the acting officer of the club. *No more than the usual anchors and chains shall be carried during a match.* A wilful infringement of any part of this rule having been proved against any yacht, the owner shall be liable to have his entry refused for any future match, and, if a member, shall be also liable to be *expelled* the club.

18. *Sweeps.*—No sweeps shall be used except, in case of necessity, to clear a vessel, or to shove off if aground, to skeet to windward only; and no other means of sounding than by the lead shall be used.

19. *Allowed to anchor.*—Yachts shall be allowed to anchor during the race, if they require it, provided they afterwards weigh the anchor.

20. *Sailing to windward.*—In sailing to windward, the yacht on the port tack shall

invariably give way to the yacht on the starboard tack; and any yacht disobeying this regulation shall forfeit all claim to the prize.

21. *Tacking.*—If two yachts be standing for the shore, or towards any vessel, and the yacht to leeward be likely to run aground or foul of a vessel, and be unable to stay without coming in contact with the windward yacht, the windward yacht must be put about on being hailed by the owner, pilot, master, or any member of the club who may be on board the leeward yacht; such yacht must, however, in that case, tack at the same time as the one she hails. In the event of a collision taking place, the yacht causing the same shall be liable to all damage occasioned thereby, and shall forfeit all claim to the prize.

22. *Altering the course.*—Any yacht bearing away or altering her course to leeward, provided there is no obstruction, thereby compelling another vessel to go out of her course, shall forfeit all claim to the prize. In running before the wind, the side on which the leading vessel carries her main boom, is to be considered the lee side.

23. *Running aground or fouling vessels.*—During a match, if any yacht shall run aground or foul of any vessel, she shall be allowed to shove, or warp off; but if any person leave a yacht, except for this purpose, the yacht will forfeit all claim to the prize. No such forfeiture will be incurred by any person accidentally falling overboard.

24. *Declining the contest.*—If a yacht before the termination of a match shall desire to decline the contest, she shall signify the same to the Commodore by hauling down her distinguishing flag.

25. *Protests.*—If the owner of a yacht entered for a match, or the responsible member of the club on board, desire to protest against the prize being given to another yacht, he may do so either previous to starting or during the match by hoisting his ensign, which he shall keep flying until a gun be fired from the steamboat as an acknowledgment of the protest; provided always, that if such protest should be proved to be *frivolous and vexatious*, the owner of the yacht in favour of which such protest shall have been made, shall not be allowed to sail in future matches of the club.

26. *Disablement.*—Any yacht having been disabled by foul sailing on the part of any other yacht, or having valid cause of complaint, shall hoist the club ensign as a signal of protest, which signal shall be *answered* by the Commodore firing a gun from the steamboat.

27. *Arrival at winning post.*—Should the first yacht of any class not arrive at the winning post by 9.30 p.m., the match for that particular class shall be re-sailed on any day that the Commodore, Vice-Commodore, or the acting President shall think fit, or it may be referred to the Sailing Sub-Committee to fix the day.

*** Any gentleman having cause of complaint against any man or men, is requested to enter his or their christian and surname and place of abode in a book for that purpose deposited in the daily Club Room, and members are earnestly solicited not to engage any such man or men without consulting or communicating with his or their late or last employers.

P. C. STUART GRANT, *Secretary.*

Royal Thames Yacht Club House,

7, *Albemarle Street, Piccadilly, W.*

June, 1865.

The subjoined comprise the rules of the ROYAL VICTORIA YACHT CLUB.

SAILING RULES.

4. *Commodore's powers.*—The Commodore (or, in his absence, the Vice-Commodore) shall have full power and command afloat, shall have the entire management of the regatta, and have power to call to his assistance any persons whose aid he may require. All disputes shall be settled by him, or whomsoever he may appoint, from whose decision there shall be no appeal.

5. *Course, &c.*—A chart or description of the course and distance, as well as all final instructions, will be given to any person intending to compete for a prize at the time of entry, or as soon after as possible.

6. *Stations.*—The yachts will be stationed, by authority from the commodore, early in the morning of the race, in the order in which they stand entered by the secretary. Any yacht not ready to take her station at the time appointed will be disqualified.

7. *Sails.*—Yachts are limited to fore and aft sails. Booming out allowed.

8. *Flags.*—Distinguishing flags must be hoisted at or before eight a.m., on the day of the race, at the main truck of each yacht intending to sail; and a full description in writing, or in colours of each flag, must be sent in at the time of entry. If the upper spar is carried away the distinguishing flag must be hoisted where most conspicuous. Any yacht lowering the said flag before the termination of the race will

be considered as having relinquished the contest.

9. *Direction of starting.*—The direction of starting will be signified by either a white or blue ensign hoisted on board the station vessel *half an hour* before the time of starting: if to start to the eastward a white ensign, if to the westward a blue ensign. Should there not be sufficient wind before noon, two guns fired in quick succession from the club battery will denote the same, and the match will be postponed till the following day. If the leading yacht does not arrive at the goal before the gunfire at sunset, it will not be considered a race, and it must be contested again on the following or subsequent day.

10. *Signal for starting.*—The preparatory flag will be hoisted and a gun fired five minutes before the time of starting; five minutes after which the preparative will be lowered, and another gun fired, the signal for starting. No sail to be set or hoisted, except mainsail in cutters, mainsail and foresail in schooners, and mainsail and mizen in yawls, before the starting gun is fired.

11. *Anchors and cables.*—Yachts must start from their own anchors and cables, having thirty fathoms outside their bows; and any yacht hauling in or paying out cable, or letting go, before the starting gun is fired, is disqualified, and forfeits all claim to the prize.

12. *Anchoring.*—Yachts may anchor during the race to avoid accident, collision, or getting aground, but must *weigh* the anchor on proceeding.

13. *Assistance.*—Yachts getting on shore during the race may use every means at their disposal to get off, but on receiving assistance will be considered to have given up the contest.

14. *Marks.*—When rounding any mark, boat, or buoy, the yacht nearest thereto is considered the headmost vessel, and should any other yacht in the race compel the yacht which is nearest to touch such mark, boat, or buoy, the yacht so compelling her shall forfeit all claim to the prize, her owner shall pay for all damages that may occur, and the yacht so compelled to touch shall not suffer any penalty for such contact.

15. *Holding on.*—No sweeps allowed; no instrument may be used in sounding but the hand lead; yachts may not hold on to *anything* to prevent the effects of the tide, nor use a boat to tow; yachts may not touch the station vessel, or any mark, boat, or buoy, either herself, her boats, spars, sails, or ropes.

16. *Fouling.*—Two yachts touching will be disqualified, unless it can be clearly and satisfactorily proved which is the aggressor.

17. *Ballast.*—No putting out or taking in ballast or water after the preparatory gun is fired; no trimming or shifting of ballast or water, or throwing ballast or water overboard, during the race; the usual bulkheads to be kept standing, and all platforms down. No skeeting or wetting sails allowed.

18. *Boarding or leaving.*—Any person boarding or leaving a yacht after the preparative gun is fired (unless by falling overboard accidentally) disqualifies such yacht for obtaining the prize.

19. *Causing another yacht to bear away.*—Any yacht bearing away or altering her course to leeward, and thereby compelling another yacht to bear away, shall forfeit all claim to the prize; and if two yachts be standing toward the shore, or toward a vessel, and the yacht to *leeward* be likely to run aground or foul such vessel, and not be able to stay without coming in contact with the windward yacht, the windward yacht must go about on being hailed to do so by the leeward one; the leewardest yacht *must*, in that case, tack at the same time as the one she hails.

General Regulations.

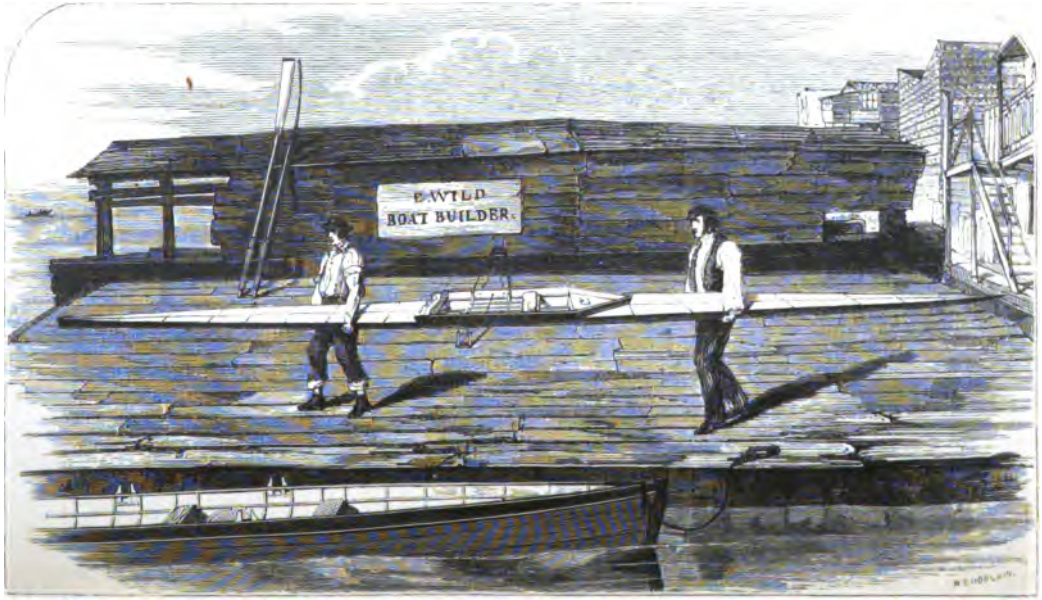
20. Yachts sailing for prizes given by the Royal Victoria Yacht Club must, together with their spars and sails, be the *bonâ fide* property of those persons in whose names they are entered on the Club lists. Only one yacht can be entered by each person for each race. No member can be allowed to enter or sail any yacht in a race whose subscriptions, or account, if any, with the Club, is unpaid.

21. In every race, the owner or a member of the club, as his representative, must be on board, who will be required to declare that the yacht under his charge has strictly conformed to all the sailing regulations, before she can be considered entitled to the prize. [Observe declaration at the end.]

22. All yachts may carry one man for every ten tons, and one for additional fractions thereof; owner, sailing master, and pilot extra.

N.B. In all cases, friends and servants will be considered part of the yacht's complement, if in any way they assist to sail, steer, or work the yacht.

23. All yachts above 30 tons, O.M., must carry one or more boats, at least equal in total length to one sixth of the yacht's length, stem to stern.



VIEW OF MR. CASSMAJOR'S SCULLING BOAT AND A RANDAN GIG. P. 541.

24. Owners of yachts or their representatives intending to object to another yacht claiming the prize, must do so within one hour after passing the station vessel, by letter signed by themselves, addressed to the Commodore or his representative.

25. The Commodore, or in his absence the Vice-Commodore, or in the absence of both, the Club House, will hoist colours at eight a.m., and lower them at sunset; and it is requested that all yachts do so at the same time.

N.B. Owners of yachts should oblige their sailing masters to pay particular attention to this rule.

26. Every member having a yacht is obliged by the Club Rules to have the universal code of signals and flags; and they are requested to instruct their sailing masters to acknowledge all signals made to them, and to show their yacht's number when required.

27. The Commodore, being duly authorised by the Club, reserves to himself the full power of making such amendments at the time of the regatta as circumstances may demand, and according to his judgment will conduce to show more sport.

28. On any seaman wilfully misconducting himself, the owner of the yacht on board which he shall have so misconducted himself is required to send his name to the committee; and it is particularly requested that members fitting out yachts will consult the Registry kept at the Club House.

29. Any member of the club wilfully acting against these regulations shall be reported to the Club, in order that such conduct may be brought under No. XV. of the Club Rules.

CHARLES THELLUSSON, *Commodore.*
BURGHLEY, *Vice-Commodore.*

Form of Declaration to be signed before a Yacht is entitled to receive a Prize.

We, the undersigned, do solemnly declare that there has been no ballast shifted, or trimming by dead weight, or any infraction whatever of any of the sailing regulations of the R.V.Y.C., on board the Yacht, during any part of the race in which she sailed on the 18

Signature of Owner or his Representative

Signature of Sailing Master of said Yacht

Dated

In all matches, when not otherwise specified, the Sailing Rules of the Royal Victoria Yacht Club will be strictly adhered to.

Yachts to be classed by Thames measurement, unless otherwise specified.

All yachts to have the usual fittings and accommodations of a yacht on board to the satisfaction of the Commodore, Vice-Commodore, and Sailing Committee.

In the races for the prizes given by the Commodore, Thomas Broadwood, Esq., and J. C. Morice, Esq., the following rules must be observed in addition:

All yachts to be in sea-going trim, with their owners *bonâ fide* living on board.

Davits and anchors may be unshipped, and placed where most convenient.

All yachts of and above 100 tons to carry their usual three boats (cutter, gig, and dingy); all yachts of from 50 to 100 tons to carry two boats (gig and cutter); all yachts of from 20 to 50 tons to carry their usual cutter. These boats may be shifted, or towed by the yachts in the usual way.

Entrance fee for all races, £1 1s.

JOHN P. MACKINNON, *Secretary.*
June 29th, 1865.

CHAPTER III.

ROWING, OR BOAT-RACING.

SECT. 1.—VARIETIES OF BOATS USED.

THE BOATS used in racing, by means of the scull and oar, are chiefly at this present time the following—viz., first, the sculling outrigger; secondly, the pair-oared outrigger; thirdly, the four-oared outrigger; fourthly, the eight-oared outrigger; and fifthly, the gig, which may be either a pair, four, six, or eight-oared. The outriggers have now almost entirely superseded the old style of boats in which the rowlock was fixed upon the wale-streak; but occasionally even now the rules of regattas compel their use, and often at the sea side gigs are employed, or other descriptions of sea boats. These, however, are the exceptions, and for racing purposes the four first varieties above enumerated comprise all that are necessary. The old wherry,

the funny, the ran-dan, and the six-oared cutter are now only used for watermen's purposes or for pleasure-parties; and, except for learning to row, are quite exploded as racing-boats.

THE OUTRIGGER SCULLING-BOAT, called also "a Clasper boat," from the name of those who introduced this variety, is the simplest form of all, and also a great improvement upon the old principle, as far as speed is concerned. But I am strongly of opinion that the decline of boat-racing as a national sport is in great measure due to the introduction of this fragile, yet swift kind of canoe. It now takes a long time to learn to sit a racing-boat, and many upsets must be expected before that perfect command of them is attained which racing demands. This boat consists of two portions—the body and the outriggers, which are one on each side, opposite each other. In the old days of sculling, the boat was obliged to be wide enough to carry the rowlock on her wale-streak, but her water-line was not nearly so wide as the rowlocks themselves, and consequently on the slightest roll, or in "lumpy water," she was much impeded in her course, and rendered still slower than she otherwise was, besides the impediment offered by the wind to lofty sides. In spite, however, of all these objections, and of her weight, which was seldom less than 90 to 100lb., Campbell, in 1835, could row the racing distance at Putney in little more than is now occupied by his successors in this elegant art. In those days a wager boat was about 23 feet long by 8 feet 6 inches wide, or sometimes 2 inches wider. At the present time the boat itself is about 30 feet long by 16 inches wide; and when in the water with the sculler in her, she is seldom more than one inch, or one and a half, above its level in the middle, rising to three or four inches at the bows, and quite level with it at the stern. The engraving of Mr. Cassamajor's boat shows these proportions very accurately, and is strictly according to scale. The bows and stern are very fine and sharp, and the former has usually a thin edge of copper added to make it still more cutting. These boats are generally constructed without any keel of a single sheet of mahogany in the middle, "scarfed" (or united by a splice with copper nails) at places not opposite each other, and bent into the proper form by means of steaming. The boat from which the drawing here given was taken, is constructed of a single sheet of mahogany from stem to stern. When without a keel, the bows are often cut out of the solid, in order to get the exact form wanted; but at others they are steamed and bent, and united by the copper sheathing, as before mentioned. The mahogany is about the thickness of a half-crown when sand-papered down and varnished, and is called "the skin" of the boat, which is strengthened by ribs of oak, inserted at stated distances; in the bows and stern they are merely thin pieces of oak, of the pattern of the section, with the centres cut out for lightness. On the top of the whole boat, with the exception of about three or four feet, varying according to the fancy of the builder, is fixed a deck or cover of thin mahogany or varnished canvas, supported by a light frame-work; thus making a hollow compartment at each end, which is rendered watertight by a bulkhead towards the middle, and any leakage allowed to escape through this by means of a small hole fitted with a plug. The sculler sits in the vacant middle space, either on the deck or a little below its level, in which case the deck does not extend to his thwart. Around the space occupied by the sculler is the wale-streak on each side, and a board of a corresponding height is carried across in a pointed form in front of the sculler's back; this is called a wash-board, and serves to keep any water shipped in a swell from running into the central well where the sculler sits, protected from friction by a mat fixed on his thwart. A similar wash-board is also carried straight across at the sternmost end of this well. A moveable foot-board, called a "stretcher," is fixed for the feet of the sculler, and capable of being shifted by a simple but ingenious contrivance called "a rack;" and attached to this stretcher is a leather strap for the foot, which enables the sculler to bring his body up quickly, without bearing on his scull too much. In the middle part of this well there are two strong timbers on each side, which serve to support two of the irons of the outriggers. Such is the construction of the boat; next comes the part which is capable of application to pairs, fours, and eights, with very little variation; and one description will do for all, the main difference being that in sculling-boats the two outriggers are opposite each other, whilst in all others they are placed alternately, half on one side and the other half on the other, but each outrigger corresponding with a vacant space on the other side.

THE OUTRIGGER-ROWLOCK consists of four iron rods which are bolted to the side of the boat; the two middle ones to the strong timbers before-mentioned, and the two others to the wale-streak, where it is

well supported by the thwart or deck fore-and-aft. These four irons gradually approach each other, being from 13 to 16 inches in length, and about one-third of an inch in diameter, of a section sometimes square and sometimes round; they are then rivetted or forged to a double plate about seven inches long and three-quarters of an inch wide, with a varying depth, which stands perpendicularly and lies parallel with the side of the boat. About three and-a-half inches of this plate is plugged with wood, upon which is nailed a thick piece of leather, and this is called the rowlock, being the part upon which the scull or oar lies. Before this piece of leather is a space about two inches long, and three or four deep, into which is jammed a wedge of oak, standing up considerably above it, and called the "thowle," or "thowle-pin;" against which the whole power of the sculler is exerted in making his stroke. Behind the leather, again, another and similar wooden wedge is jammed into a corresponding space, and this is called "the stopper," and is for the purpose of preventing the oar or scull from flying off the rowlock, when it is pushed forward, or "on the feather," as it is termed. In this way there is left a square space, about the breadth of the hand, bounded before by the thowle, behind by the stopper, and below by the leather nailed upon the rowlock; and this space must be accurately adjusted to the reach and length of the sculler, being just wide enough to enable him to get sufficiently backwards and forwards, and also placed high enough to allow him to clear his knees. It must also be fixed at such a distance astern of the thwart that the sculler shall be enabled to get his scull as much back as he pulls it before it—that is, it must be in the middle of his reach, which varies much with different styles, according to whether the individual swings back more or less than he reaches forward over his toes. The weight of an outrigger sculling-boat, without sculls, is *said to be* sometimes not more than 30lb.; this however is, I fancy, a slight exaggeration; and few are, I believe, really less than 38 or 40lb., when adapted to carry a man of 9st. 7lb.

THE SCULLS are made of white deal, and consist of the handle, the loom, and the blade. The handle and loom occupy the length from the rowlock to the middle of the boat, where they should overlap each other from four to six inches for over-hand sculling, in which one hand passes over the other; but this is sometimes avoided, because the rowlocks may be made wide enough apart to allow of sufficient length of loom without it, so that the length of the irons added to half the width of the boat gives the length inboard of the scull, or generally a little over 2 feet; but for this arrangement the boat must be at least 20 inches wide, and the outrigger must project 14 inches. The handle is made round for the width of the hand, but not too smooth, and is left as it comes from the rasp; from the handle to a little beyond the rowlock most sculls are square, with an oblong leather button nailed on to the upper part of the side corresponding with the back part of the blade, and just where the rowlock comes—indeed butting against the inside of the thowle. In the "Clasper oar and scull," however, it is round and covered with leather, with a very peculiar button encircling three-fourths of the oar at this part, and projecting about an inch. Outboard the oar or scull is at first round or nearly so behind, and square before; then of an oval section, and finally ending in the blade, by gradually spreading out until it terminates in a breadth of thin wood about four inches wide, or sometimes even more. The oar or scull ought to be nearly balanced at the nut, but is always a little heavier outboard than inboard.

THE PAIR-OARED OUTRIGGER is built somewhat on the same model as the sculling-boat, but longer, wider, and almost always with a keel. As the strain on these boats is not even on the two sides, owing to the alternate fixing of the outriggers, they are obliged to be built much stronger and heavier than the sculling-boat; and every foot in the length which the additional man requires to be added for his support in the water, also causes a greater tendency to weakness, and by consequence more strength of timber to give the adequate stiffness. Unless there is this last quality in perfection no boat will row well, because at the moment she is being impelled by the oar she trembles and twists, losing her proper form as well as taking a slightly serpentine course. The pair-oar is generally about thirty-six feet long, and twenty inches wide; but they must be proportioned to the weight of the men they have to carry. The covering in of the bows and stern is generally of canvas instead of mahogany, and the skin is more frequently made of white or yellow pine than of mahogany, in order to save weight. The increased length is given in the middle, where the vacant space, or well, which is undecked, is long enough to receive two men instead of one; and when steering is

required, a boy to steer besides. This last addition, however, is only allowed in winding rivers, where it is almost impossible to keep a good steerage without this assistance. In the Thames such a thing is never seen in a race; but even there a devious course is often made, and the boat actually loses many yards in her erratic shoots to the right and left. The after-rowlock, usually called the "stroke rowlock," is bolted to the left side, in front of this man's thwart; and between the two thwarts on the other side is bolted the "bow rowlock." Sometimes, however, when the stroke-oar cannot row on the stroke-side, the rowlocks are reversed, and then he is said to "row stroke on bow side." The oars are in form merely enlarged sculls, except that the handle is a little longer, and the square of the loom is gradually rounded off into it for about five or six inches, which is for the accommodation of the inside hand. These boats when loaded sit a very little higher out of the water than sculling-boats, there being generally about two inches between the water-line and the wale-streak; and, like the former, they are composed of a streak or plank put on in sheets the breadth of each side, and generally in two lengths, scarfed about four feet apart on the two sides; so that one side is divided into two unequal portions, with the larger part aft, and the other has the larger part forwards. The planking is of the same stoutness and substance, but the ribs are much stronger; and they are carefully framed into the keel, which again is generally strengthened by a backbone, a perpendicular piece of deal running longitudinally along its surface, and rising at the thwarts to their under-surface, to which they are securely nailed.

THE FOUR-OARED OUTRIGGER is constructed just like a pair-oared boat, except that she is about eight or ten feet longer; each man usually requiring about four feet extra length up to an eight-oared boat, when the extra width allows of the thwart for the bow and stroke-oar being carried farther into the bow and stern. At one time, these boats were built forty-eight feet long, and twenty-one inches wide only, even for a crew averaging 9st. 7lb.; but they are now built somewhat shorter and wider, and the alteration is found to answer better, for when so very narrow they offered no resistance to the depressing power of the stroke, and were buried in the water while "on the hand," to rise again in "the shoot," and thus to make a series of dips which were little calculated for a high speed. At first it was supposed that the only limit to the diminution of breadth and to the increase of length was the difficulty in getting the boat stiff and steady enough for her crew, but now it is discovered that she must also offer a sufficient resistance to the downpull, or, in other words, that she must be "floaty" enough to carry her crew. Hence the medium length and breadth which are now adopted. A rudder is always added to four-oared boats, and there is consequently a thwart required for a light coxswain, though in racing it is usual for him to sit on the floor of the boat for greater steadiness. There are seldom more than eighteen inches allowed for the coxswain between his thwart and the stretcher of the bow-oar; and here he must sit cross-legged, or as well as he can, with a hand on each gunwale or wale-streak. The rudder is attached to the whole depth of the stern, and is worked by two long cords, which run through pulleys on the deck, or canvas covering of the stern. These are called the "yoke lines," and they are attached to a cross-bar of iron or wood, called "the yoke," which stands out on each side of the stern, at right angles to the rudder, and thus, when pulled, turns it to the same side. When first these boats were introduced, they were almost always built of four or five streaks, or planks, on each side, but they are now as commonly of a single streak, either of mahogany, or white or yellow pine. The oars are similar to those of the pair-oared boat, except that the middle pair are a trifle longer in some cases; but in many fours all the oars are almost exactly alike in length, and where the crew are nearly matched in strength this ought to be the case. The view given of the four-oared outrigger at the beginning of this book is from an exact drawing according to scale of a small outrigger four-oared boat twenty-one inches wide. Her great length contrasts well with that of the model yacht by the side of which she is lying.

THE EIGHT-OARED OUTRIGGER is, again, a longer form, and is exactly on the same principle of construction, with the additional space necessary for four extra men. She is generally now about 55 or 56 feet in length, by 2 feet 8 or 4 inches in breadth, according to her crew in both cases. Some have reached even 70 feet, but they are too weak when of that extreme length, and the above proportions are, I believe, the best. The rowlocks are disposed four on each side between the thwarts, but approaching nearer to the forward one than

to that behind them. Here, also, they must be suited to the stroke of the crew; but the usual and average length from the sternmost edge of the thwart to the inside of the thowle-pin is seventeen inches. These boats are now generally built of a single streak of mahogany, and are much wider in floor, and shorter in length than they were soon after the introduction of the outrigger. Taylor, of north country fame, is now (1859) the fashionable boat-builder everywhere but at Cambridge, where Searle still holds his own, almost without a challenge. The peculiarity of Taylor's build consists in the approximation of his boat to the lines *under water* of the old Thames wherry, being very full amidships, and very sharp in the bows and stern. Whether the extraordinary success which has attended his boats has been founded upon any real improvement in their construction, remains to be proved, but the good opinion which has been formed of them by the present race of oarsmen, is derived from numerous trials on the Thames, as well as upon the experience gained at Oxford and Cambridge. The oars in this kind of boat vary in length; Nos. 8 and 7 being a little longer than No. 2 and bow, while the four middle oars are of equal length, and about two or three inches longer than that of the stroke, according to the weight and power of the men. In all cases the steadiness of these boats is in proportion to the width and flatness of their floor, which, if it is a segment of a circle, causes the boat to be very "crank," and inclined to roll on the slightest inequality in the rowing.

In Examining any of these boats, the great point is to ascertain if they are stiff—that is, if they twist readily on being supported unequally; and, when turned over with their bottoms upwards, that their keels are quite straight, and the two sides exactly alike. It is true that few boats are mathematically so, and a very correct eye will generally detect some little deviation from the precise correspondence in the two halves, but unless very obvious, it is of little consequence. A crooked keel is the result of a strain, and always interferes with a boat's way, requiring constant steerage, however slight, against it, and thus also impeding the speed. Boats so curved are said to be "screwed."

The Gig is on a different construction altogether, being shorter, wider, and without outriggers. She has a square stern, and a strong gunwale, into which, at the place of the rowlocks, two wooden pins (thowle-pins) are wedged. In river gigs the oars are similar to those already described; but in ships' gigs they have no nut, and are only held in their proper places by the art of the rower. Gigs are built in the old-fashioned way with five or six streaks, and are either of deal or oak, the former being the lighter, the latter the stronger and more lasting material For a view of a pair-oared gig, see the engraving of Mr. Cassamajor's sculling-boat, where a gig is shown lying in the water by the side of the raft.

Sect. 2.—Rowing and Sculling.

Rowing, as the most simple of the two, must first be described. It may be defined as the propulsion of a boat through the water by means of oars, the water being the fulcrum, the rowlock the weight to be moved, and the hand giving the power; the whole being a lever of the second kind in mechanics. The oars are numbered from the bow towards the stern—Nos. 1 (bow), and 3, 5, and 7 in an eight-oared boat being on the right or starboard side; and Nos. 2, 4, 6, and 8 on the left or port. In all the small modern outriggers, the rower sits nearly in the middle of the boat—that is to say, about on that part, which is one-third of the length of the thwart from the side opposite to his rowlock. Here his mat is firmly tied, and upon the front edge of this he sits bending his knees, separating them about a foot, and placing his feet, with his heels close together, firmly against the stretcher, exactly in front of the middle of his fork. Thus he sits quite square to his work, and will then swing backward and forward exactly in the line of the boat, or parallel with it. If his feet are nearer the side of the boat than they ought to be, he will swing towards the middle, or "row into the boat; and if they are too near the middle line, he will row out of it;" both being bad faults, and making the boat rock considerably. The stretcher should be adjusted to such a length that the oar will just clear the knees, and the strap should be buckled tightly over the inside foot, which is the one upon which most strain falls in feathering the oar. The seat or thwart should be moderately high, so that the rower has a good command over his oar, but low enough to allow him to get well over his knees. The lower the seat, the more likely the rower is to drag the boat under the water; and the higher he sits, if he can only clear his knees, the lighter and smarter is the stroke, and the less the boat dips when on the hand. The great object is to pull the oar straight

through the water, taking sufficient hold of it, but not depressing the boat in doing so; and on no account raising the body from the swing by bearing downwards upon the loom and handle. This last is a fatal error, and will invariably stop any of the boats of the modern build, though in the olden time "the dig into the ribs" with a great jerk was of service, because the floor of the wide boats then in use was so wide that no ordinary power in this way had any effect in sending her down; and an eight-oar, though only 50 feet long, or even less, was rarely seen to dip. It is very commonly supposed that round backs are caused by a low seat, but I have seen more attending a high one than the reverse; and, theoretically, I should expect such to be the case. At Oxford, where for many years the seat has been higher than elsewhere, and also the row-locks, the round back is unusually rare, as compared with other places. I do not mean to say that there are not many round backs there, but that there are not so many as at Cambridge and on the Thames, and that the proportion of good backs is very great. When all these points are satisfactorily adjusted by the instructor (and they cannot be too early attended to, since a man is often more bothered at unlearning bad habits than in learning good ones), the young rower may be put into a steady pair-oared boat, and may then be set to pull as wildly as he likes, making him, if possible, swing straight, and well back and forward, and inducing him to lay out all his power, regardless of "crabs." The boat should for this purpose be a steady one, and not an outrigger; and a companion who will not mind a few splashes, and a little knocking about, should be put in to "row stroke" slowly, but as long and as strong as the new oar can imitate. The teacher must steer, as the tyro never pulls two strokes alike, and the stroke-oar can hardly keep him straight without the rudder. During this lesson, the instructor must see that the young oar has his hands properly placed, the outside one grasping the handle, with the thumb above it, while the inside hand lays hold of the loom just where the rounded-off part joins the square, and keeping the thumb beneath. This allows of the elbows being kept close to the sides, and of their being well straightened immediately after the conclusion of the stroke, and before the body has had time to recover itself fully. The stroke finishes with "the feather," which the learner must catch by watching and imitating; and this is immediately succeeded by the restoration of the oar to its former state, in doing which the wrist is straightened, and the hand and elbow thrust rapidly forward at the same time, with a forward action of the shoulders, so as to carry the loom away from the body at once, and then when the arm is straight the body follows as rapidly as it is required to do. The head is kept well up, and the eyes looking at the back of the man next in front. The chest full, and prominent; the back slightly arched forward, easily, and gently; the shoulders playing freely forwards; and the hands reaching well over the toes. If all these evolutions can be carried out in the first lesson the pupil is a very apt one, but the teacher need not be disappointed if he fails in inculcating more than the mere power of swinging and of avoiding "crabs," which are the result of the water catching the oar when there is considerable way on the boat, and turning its blade flat, so that the rower cannot bring it out, and by the impetus of the boat is driven backward over his thwart. These are the fundamental principles of rowing, but the delicacies of the art consist in rowing straight through the water exactly at the proper depth, laying out the strength in the right way, and at the right time, and feathering neatly, and at the proper distance from the water. The depth at which the oar should be brought through the water, should be such as just to cover the blade, and the stroke-oar should always keep to this depth, in which respect he should be imitated by his pupil, as far as his strength will allow, but if he is too weak to do so, he had far better not dip his oar as deep as his stroke, so that he pulls it through as much water, rather than to dig deep at first, and then be compelled to finish his stroke in the air in order to keep time. Both the oars ought to take in the same length of water, and to enter and come out at the same moment; now, granting this, if both are pulling at their best, the stronger must dip deeper than the weaker, and by consequence the above rule will necessarily apply.

THE CHIEF FAULTS IN ROWING are—first, the bending forward over the oar at the end of the stroke, called "meeting the oar," and which is attended by the taking in too small an extent of water; secondly, making the latter part of the stroke in the air, which is the usual expedient in "shirking," often also accompanying the first fault; thirdly, rowing round—that is, not dropping the blade at once to its proper depth, but describing the segment of a circle, and

thus having to bring the oar up out of the water to feather, by which the boat is dragged under, and her way impeded; fourthly, rowing with the elbows bent, either when on the stroke, or the feather, or both; fifthly, keeping the elbows out from the sides, which is only bad in appearance, and most of our best watermen have been addicted to it; sixthly, looking at the oar to avoid crabs, which only leads to uneven swinging, and often to the very thing which is intended to be avoided; and, seventhly, looking out of the boat at passing objects, or at the competitors in a race. There are other faults in appearance, such as dropping the chin upon the breast, rounding the shoulders or back, &c.; but they do not so much affect the real work done as the above, and are often seen in a good workman, whose oar itself, if watched, would be pronounced to be that of a finished oarsman.

SCULLING is practised exactly on the same principles as rowing, except that both sculls being managed by one man, he has only one hand for each. He sits in the middle of the boat, and pulls them exactly as described in rowing with the oar, taking especial care to pull alike with both, and entering, as well as feathering them, precisely at the same moment. A neglect of this precaution is attended with danger; and, in fact, in light outrigger-boats it is only by the practised hand that the time can be so nicely regulated as to admit of their use without an upset. The sculler is, first of all, obliged to have recourse to a wide and steady boat; and when he can manage her well he may venture upon an outrigger; carefully stepping into which, while she is held by a waterman, he sits down and gets all right, while still steadied by his assistant, and he only ventures to give up his aid when he has his sculls out ready balanced, and at first lying with the blades flat on the water. After once getting away, he had better row on pretty hard, as these boats are more difficult to paddle in than to row fast—that is, short of a spirt, but rowing with good power. A straight course is kept partly by watching the stern and keeping it in a line with some object; and partly by turning the head round (not the shoulder), when, having taken a sight, the stern is set to some fresh object, and maintained in a line with it till the next look a-head. This is one of the most difficult parts of sculling, and few men are able to steer well in a race without the assistance of a man behind them in another boat, or, if in narrow rivers, running on the bank, who keeps directing the course, by calling "Pull your right," or "Pull your left," as the case may require. In matches, an eight-oar generally accompanies each sculler, with a man of light weight in her bows, who is able to direct to a nicety the course to be kept, and the sculler has only to lay out to the utmost of his power; and if this is done by both it is fair enough, and leads to an avoidance of fouls which are the bane of the rowing match.

THE MANŒUVRES in all boats are alike in principle, and consist of holding water, backing water, paddling, rowing hard, spirting, easing (or stopping), and starting, each of which shall be separately described.

HOLDING WATER is necessary when the boat is to be suddenly stopped, in which case both sides of her crew reverse the blades of their oars, and, according to the pace at which they have been going, drop them more or less into the water, holding their arms straight, and keeping the inside hand firmly upon the loom to prevent the water sinking the blade too far under, and thus causing "a crab." It is a very difficult manœuvre to execute well, and is not often wanted in racing, except when a buoy is to be turned, in which case the object is to row rapidly up to it, then "Hold water all" till the way is stopped, after which one side still holds, or even backs water, and the other rows the boat rapidly round. Practice is the great point here, as the principle is simple enough, and nothing but long practice will enable a crew to turn a boat in the small space and time which I have seen at Manchester, where the boats row at a racing pace up to the buoy, and, if possible, the stroke-oar catches hold of it. At all events, they stop as if by magic, and are round in about 15 seconds. Sometimes one or two oars hold water to enable the other side to row them round; but in confined spaces this is generally effected by one side backing and the other side rowing, which brings a boat round in her own length, or nearly so.

BACKING is effected by the oar held as in the last manœuvre, and used as in rowing, but exactly in the opposite direction, *pushing* the blade through the water, and *pulling* it through the air. The blade should be neatly feathered at the moment of leaving the water; and great care should be taken not to dig too deep, and to back in *good time*, and with the same length of stroke. There is no possibility of swinging beyond the perpendicular, and it should not be attempted, but all the work must be done be-

fore the thwart, reaching well over the toes. When a whole crew back water neatly and in good time, it is a very pretty sight, and the boat goes a better pace than might be expected; indeed, I once saw a "Leander four," at Erith, back water as fast as an ordinary boat could row, and with a neatness and good time which I have never seen equalled.

PADDLING is the portal to excellence in rowing of all kinds; and as it enables faults to be detected, so it allows them to be corrected. It consists in rowing at about half-power and quickness—that is to say, with from twenty to thirty strokes per minute, according to their length. At this pace every fault is very visible, the goodness or badness of the time, and the keeping stroke are at once manifest, and the faults generally are exaggerated. It is now that the style of rowing should be fixed upon, and, if a crew are practising, that all should follow it as far as they are able. I have already described the proper mode of holding the oar, which is the same in all rowing; but in giving a good style the following points should be inculcated. The first to be considered is the PREPARATORY ACTION, in which every man should have his rowlock just wide enough for him to touch the stopper with his oar when at his full reach forward, and he should, in starting, commence at that point, the hands being well over the toes, and the blade of the oar at right angles to the surface of the water, and about a foot from it, more or less, according to that of the stroke, who must be rigidly imitated. The body is bent forward *at the hips only*, and between the thighs; the back being straight, the shoulders freely extended, and the head well up, with the eyes looking horizontally forwards. Secondly, the DROPPING OF THE OAR, previous to pulling, which must be rapid yet light, and without the slightest splash or chop. Thirdly, the PULL, which commences almost the instant the blade touches the water, because the elasticity of the muscles and of the oar are first to be overcome; and when they are so, the oar is deep enough and the pull should commence. This is a very nice and difficult point to calculate, and nothing but practice will give the exact moment at which to begin to use the back; but to a casual observer, watching even a finished oarsman, it appears as if he began to pull as soon as he had dropped his oar; yet it is not really so, and no power is actually laid out until the blade has reached its full depth. At that instant, the body, which has been falling backwards for an exceedingly short space of time, is checked by the arms, *which are all this time straight at the elbows*; and the back is now exerted to drag the oar through the water until it reaches its full extent of swing, which is a little beyond the perpendicular, on the average, but more or less according to the difference of style. As soon as the full swing is attained, the arms bring the oars home by bending the elbows, keeping them close as they pass the hips, and throwing back the shoulders at the same time, when the stroke is completed by depressing the inside wrist and elevating the knuckles, in which the outside hand also follows, causing the loom to rotate on the rowlock, and changing the direction of the blade from being vertical to nearly a horizontal position as it leaves the water. At the conclusion of the stroke the root of the thumb of the inside hand should touch the ribs (the particular one which is struck depending upon the height of the rowlock and thwart), the back is straight and inclining a little beyond the perpendicular, with a graceful fall of the shoulder-blades, accompanied, as a matter of course, by a fulness of chest, and the head carried easily, but with the neck not at all bent forwards. When the knees are held wide apart they are very slightly brought together during the stroke; but when they are maintained in apposition throughout, as in the "Clasper style," they do not change at all. Fourthly, the RECOVERY, which consists in first straightening the wrist, by which the oar is at the same time rotated and thrust forward, for the second action is a necessary part of the first: secondly, of a straightening of the elbows and a darting forward of the shoulders: and thirdly, of the bending of the body at the hips as far forward as possible over the toes, with the blade of the oar held in the vertical direction, which brings it to the exact point from which we started. The whole of these acts may be executed slowly and lightly, which is called *paddling*. When they are performed with great power, yet with a long stroke, and as much quickness as is consistent with lasting the distance to be rowed, it is called "rowing hard;" and when the velocity is the highest of which the crew is capable for any distance, however short, it is called "spirting." The average number of strokes in an eight-oar for paddling is about 25 per minute, for rowing hard about 42, and for a spirt about 50 to 55.

EASING AND STARTING are of course the exact opposites of each other; the former

being merely the ceasing to row, in which all should stop exactly at the same time; and the coxswain should in all cases give the word, "Easy all," at the end of the stroke, when the oars should not be wholly recovered from the feather, but should be half-way between the horizontal and the perpendicular, and at right angles to the boat, so that as soon as the way is a little off her they may lie flat on the water, and thus prevent her being unsteady by their powers of balancing. STARTING is effected by all rowing off at the same moment, beginning with the position described in the last paragraph, or within a short distance of the utmost reach forward, and giving two short strokes and a long one when intending to get quickly off. In ordinary cases, however, it is better to paddle off with the usual steady and slow stroke.

THE BEST LENGTH FOR THE STROKE is that which *all* in the boat can well maintain without reaching so far forwards as to be unsteady in the drop, or swinging so far back as to bear too hard upon the oar, and thus occasion a downward pull upon the boat. It is of no use for the stroke-oar to over-reach his crew, though at the same time he should be able to excel them all, in order to improve them, and draw out their powers to the fullest extent. It is clear that the only limit to the length of the stroke is the reach forward, which is limited by the bend at the hip, and the swing backward, which must be confined within the bounds dictated by a careful observation of the several styles of the men composing the crew; hence, if any of them are slow and clumsy in recovering their oars, the swing must be kept within due limits, for fear of their failing at this important time; and the same with the reach forward.

BEST STYLE OF STROKE.—In laying out the stroke, the grand and essential point in light boats is not to jerk; but, beginning with a delicate drop into the water, and without a splash if possible, the rower should catch hold at once, then gradually increase the power until the resistance begins to be removed by the near approach of the blade to the surface, when the whole attention, and also the muscular effort of the arms, are absorbed in making the feather; and consequently there is, or ought to be, no vibration or jerk, and yet the root of the thumb should be brought close up to the ribs. The feathering is strictly the turning the blade from the perpendicular to the horizontal direction, by a raising of the knuckles towards the back of the fore-arm, and consequent bending the wrist; but the oar is said to be "on the feather" from the time that it is thus turned until it re-enters the water, although the direction is recovered as quickly as possible after the change is made from a backward to a forward motion. It is in this part and in the swing that there is so much difference of opinion; some contending for a very quick feather, some for a very high one, with a sort of hovering in the air at the end, called the "Oxford feather," and some for a slow feather, without this raised hover. In the time of the old heavy boats quickness of feather was all-important, because they would not continue their shoot long when off the hand; and two boats nearly matched in a race might be seen alternately leading, according as they were at the moment on, or off, the stroke; consequently the time occupied by the oar returning in the air from the stroke was comparatively lost, because the boat was losing her way all the time, and in a very slow stroke was almost stationary; but in the modern narrow boats, the speed, after the stroke is finished, or "the shoot," as it is called, continues for a considerable period of time; and if, while this full velocity lasts, the oars are dropped into the water in a clumsy manner, she may actually be seen to stop, as often, in fact, really happens in a young crew trying to row faster than they ought. It is therefore found now, that a stroke which does great execution in the water, without laying any great stress upon the quickness of feather, is the most telling one; and that strength applied in the proper way, together with a finished drop into the water, and a clean feather, is the essence of the art. In all quick strokes the feathering is necessarily also quick, and without any attempt at increase of pace in that department is quite quick enough; and hence there is no necessity for the old caution, "to be quick forward." This avoids a great expenditure of power, which formerly was laid out in saving the time lost in the shoot; and it is one of the great advantages of these long, light, and narrow boats. If they are handled with skill, and not rowed too deep or jerked, they are beautiful in their shoot, and it is scarcely possible to detect the slightest alteration in their speed at any moment. Again, they require that the swing shall not be too far back, because in recovering from this long swing some weight must be thrown upon the oar, and the boat is made to dip bodily, from her narrow floor affording too slight a resistance. A very little beyond the perpendicular is

therefore the proper swing in most cases; though in some few the power of recovery is so completely mastered independently of the oar or scull, that the full and long swing, as of old, is developed without the dip, as in the celebrity of the present day, Mr. Cassamajor, and in a clever sculler well known in the north, Mr. Dobson. The former of these gentlemen is a most elegant sculler, as well as a most powerful one, and exhibits the perfection of form in every respect, with the most extraordinary reach and swing, and without the slightest dip of his boat. Mr. Dobson was still more extraordinary, because he swung even farther, with a great reach also, and with an odd twist of his shoulder; and yet, though very fast in smooth water, and of course very powerful, his boat's shoot was without the slightest dip. It is clear, therefore, that swing is not necessarily bad, but that it requires great skill to combine it with the proper recovery; and hence, in an amateur crew, as it is difficult to meet with anything like perfection in all, it is better not to attempt to carry it out to the extreme, but to swing only about two-thirds of that amount.

STRAPS.—Certain very high authorities (namely, the author of the *Principles of Rowing*) object to the use of straps, as causing the doubling forward of the body on the oar; but it appears to my humble judgment that these gentlemen have confounded the *post hoc* with the *propter hoc* in their conclusions. Straps and light boats came in together, and doubling forward came in soon afterwards; and they say that this fatal defect is caused by straps, because their use was followed by the defect; but I suspect that this unseemly habit is the result of the want of resisting power which is now felt by the light boats, and for which straps were invented, and not of the straps themselves. In the old heavy boat a man could almost raise himself off his thwart in the pull; and in the Thames wherry it was common enough to see the waterman actually showing daylight under his seat of honour. But when the light boats were introduced, it was found that it was not only impossible to execute this extreme manœuvre, but that the attempt to carry out the old dig into the ribs, which at the same time raised the body partially, was attended with a drag of the boat under the water, which was opposed to her progress through it. In order to avoid this difficulty, and to enable the rower to raise himself without bearing on his oar more than enough to feather it, straps were introduced; but I never yet saw any one use them while meeting his oar. The bending at this time has nothing to do with the thighs, which are the parts steadied by the strap, but it is entirely *at the loin* where the arch forward takes place; and so far from requiring a strap to execute it, I have invariably found that the absence of one from the stretcher does not interfere with the trick. Meeting the oar is a sign of weakness in the back, or of a tendency to shirk, the one being often involuntary, and the other becoming so after a time. Whatever the cause, it is a habit which it is very difficult to cure; and when weakness has produced it, wholly impossible. Here the back has not *power* to bring the oar through the same quantity of water in the same time as the stroke, and therefore, the oar is allowed to be brought through the latter part of its course by the arms alone; or, in fact, is almost kept stationary, and the back meets it so as to be ready for a start beforehand in the feather, and thus to have less to do in that part of the work as well as in the stroke. Now, as it is shown that the back comes forward to meet the oar while its stroke is being finished by the arms, so it is clear that the arms pull the back forward, as well as pulling the oar back, and that, *consequently, the strap is not wanted for this trick*, and if not wanted it is not likely to be used. There is, however, another observation of these gentlemen which is invaluable, and ought to be written in letters of gold over all boat builders' yards; it is this—"THE USE OF VERY LIGHT BOATS BY YOUNG OARS IS DESTRUCTIVE TO THE ACQUISITION OF GOOD STYLE."

KEEPING STROKE, is the imitation of the stroke-oar by those behind him, in the power used, and in the length and depth of water taken, in which particular, if they exactly follow him, they are said to "keep stroke." A shirker cannot keep stroke, though he may keep time; and it is only by watching the oar, and the work done by it, that the coxswain can detect this fault. It is not so unpleasant to the ear as the defect in time, but it is quite as fatal to the good progress of the boat, and, indeed, sometimes more so, because the variable ending of the stroke is of more consequence than the want of time in beginning it, or rather in feathering, which is the process by which time is marked. The speed of the boat is entirely dependent upon the swing together of the men, and their laying out their strength at the same moment to the same degree, and in the same direction. These acts being simultaneous, time must

be kept, as the *major* includes the *minor*; but the converse does not by any means always hold good. So important is keeping stroke, that a crew of men pulling well together will always beat a crew of better men who row in various styles, and without simultaneous action.

KEEPING TIME, is the feathering of the oars, and their recovery, executed exactly together by a crew; and it may be carried out to a tolerably full extent by a crew, some of whom are accomplished shirkers, while the others are doing good work. Still the practised ear will generally detect a slight want of rhythm, for though the time is pretty good, there is a difference in the sound produced by an oar doing its duty from that made by a shirker. This will lead the coxswain to examine the oars themselves, and he then sees how they perform, and at once detects the offender; though in an eight-oar there is great difficulty in examining the oars in the fore part of the boat, and they can almost defy detection if clever in their way.

SECT. 8.—STEERING.

THE COXSWAIN'S duty is by no means the least important in boat-racing, and he often makes a considerable difference in the length of water rowed over, and in the amount of stream to be rowed with or against. For ordinary practice, the coxswain, unless he is also the captain of the crew, need not be very efficient; but I am fully persuaded that no boat's crew of more than a four-oar can be properly trained, except by a coxswain who is also captain, or, at all events, by some one who has full power while in the boat. In four-oared racing-boats the coxswain should not weigh more than 7st., and few boats as now built carry much more than that weight with sufficient buoyancy. In an eight-oar he may be 9st., or perhaps a few pounds over. It is seldom that a good head can be obtained on a body of less than 7st. in weight; but there is no doubt that every pound tells in a boat as well as on a horse. Nevertheless, good steering balances any weight up to that amount, and even another stone had better be given away than to put an inefficient steerer into the responsible office which he fills in a sharply contested race. It requires considerable nerve to keep a boat in her course when pressed close by another, and yet the giving way often entails the loss of the race. The great cause of the failures in steering which are so often seen, is that the coxswain has not been allowed that amount of practice *with the crew* which his office requires. Very often he has only been in the boat once or twice, and sometimes he has never steered half-a-dozen times in any boat at all. The trainer has usurped the place, because he has been wanted to "coach" the men; but the coxswain wants teaching as much as the oarsmen, and if not allowed to be in his own boat, he ought to have practice in another. The grand principles of steering are, to keep the course which is laid down from the first, with as little meddling with the yoke-lines as possible; to keep these "taut," so that the rudder is quite fixed and incapable of shifting, and when compelled to use them, to be careful to do no more than is absolutely necessary, so as to avoid having to rectify an overshoot to the right by steering again to the left. In going round sharp points, if the men pulling the outside oars are stronger than those pulling the inside, they may be called upon to pull harder—thus, "pull bow-side," or "pull stroke-side;" but if they happen to be the weaker half of the crew, and they are liable to be afterwards overdone, it is better "to ease" the other side. Either of these is better than using the rudder too strongly, which impedes a boat, while it also keeps the men doing their utmost; and it will be found in practice that a boat will go round a point in less time by easing one side, than by steering round with the full force on, whilst at the same time the strength of the men is husbanded. The coxswain should also study the stream, and take advantage of the slack water if against it, or of the full stream if with it; and this he must do according to his position in the race, which will be constantly varying in different contests and localities. In every case he should steer over the course several times beforehand, and should make every object perfectly familiar to him at the first sight. His words of command to the crew are, "Pull all," "Ease all," "Pull bow-side," "Pull stroke-side," "Pull bow," or No. 2, or 3, or stroke, as the case may be. "Back water all," or any one, or two, or either side; and the same with holding water. "Look out," when any obstacle is in the way; and "Ship oar," or oars, directed to any one, or all. With these words of command he manages the boat and crew, and if he has a knowledge of their proper duties and modes of executing them, he "coaches" or trains them in addition

CHAPTER IV.

BOAT-RACING.

Sect. 1.—Training a Boat's Crew.

Selection of the Men.—In directing the choice of a boat's crew, it will here be understood that the men to be selected from are all in good health; but in the chapter on training for pedestrian purposes, further advice is given for preparing a man out of health to undertake training of all kinds. At first sight, it may appear that in rowing all below the waist is idle, but this is by no means true, for the legs and thighs take their full share in the muscular exertion going on. Many mistakes have been made in picking men, from this error in judgment; for it has been found, when perhaps too late, that good knees and thighs are required as well as good arms and shoulders. This is easily explained by a reference to the work which is to be done, and by examining the framework which has to do it. Now, then, what is that work? It consists in pulling an oar or scull through the water, by the muscles of the arms and back. But what enables the power called into play by the arms and back to act upon the boat? Why, the resisting and pushing power of the legs and thighs, without which the body would glide off the thwart, and fall helplessly into the boat. Hence, it is manifest, that just as much as the arms generate the power by pulling against the water, by so much exactly will the legs convey that power to the boat by pushing against the stretcher. In selecting men for this beautiful and healthy exercise, it should therefore be borne in mind that the following points are essential, though, of course, this, like all similar rules, admits of exception:—First and foremost, I should look to the moving powers—the arms, shoulders, and back. These should be muscular, with good bony wrists, straight elbows, powerful and pliable shoulders, and, above all, a good, strong, muscular loin. Without this last point the strength of arm is of no use; the body, instead of drawing the oar to it by the muscles of the arm, is itself drawn forward over the oar, and the stroke is rendered ineffective. Nothing is more difficult than to foretel, by examination, the exact degree of strength which any individual form is capable of displaying; but, with regard to the back and loin, it is almost impossible to form any useful opinion without actual trial; for so much depends upon early habits of various kinds, that no conclusion from the formation can possibly be arrived at. It is seldom that any one can say, with anything like certainty, that a particular individual shall make a "good oar," but the contrary may often be affirmed, and it may generally be prognosticated, that an awkward, slow, and very high-shouldered man will prove useless in a boat. Next to these points, I should see that the legs and thighs (without being too heavy) should be sufficiently well developed to do their work. If too muscular, it is only so much extra weight to carry, and they should rather be below than above the proportionate size, as compared with the arms. This form has been apparent in most of our best watermen, who have generally been remarkable for good upper works, as compared with their lower extremities. After the moving powers, it is needful to consider the state of the lungs and the heart. The wind should be naturally good, free from wheezing or cough; and the heart should be healthy, and free from palpitation or excitement. This can only be ascertained by a trial; and indeed, that is the best mode of arriving at an opinion on all the different essentials for this, as well as all other bodily exercises. With regard to size and weight, much must depend upon what is to be done. I am now alluding to the choice of a boat's crew; as for single contests such selection is generally made by the sculler himself, and after many and repeated trials. It is seldom, now-a-days, that a man more than 13st. in weight is found to "pull his weight;" and 12st. 7lb. is generally the top weight in an eight-oar. This is the result of experience, as no theory on the subject is worth a straw; but it has certainly been ascertained that all development of frame above that weight is accompanied with an increase of weight out of all proportion to the muscular power. With the old tub-like boats which were formerly in vogue before Clasper's improvements were introduced, it was necessary to have more weight and size at the end of an oar than are now found to be useful. The breadth of floor also was such that the increased weight did not bury the boat so much as it now does, and, consequently, the attendant disadvantages were not so great as at present. With regard to the

lowest weight which is desirable in a boat, I am inclined to think 9st. 7lb. is the point which should not be passed without strong reason for it. The difference between the bow and the middle oars is now much less than it used to be, and the weights ought, consequently, to be much nearer. My own belief is, that a difference of two stone is quite as much as ought to be allowed; and that if more than that is given, the oars will not be pulled through the water *in the same time, and with the same power*, without which no boat is done justice to.

APPORTIONMENT OF THE DAY'S WORK.—After selecting the men who are to form the crew to be trained, it is desirable, if by any means it can be accomplished, to keep them together day and night; at all events, they should take their runs and meals together, and should never, especially at night, be free from *surveillance*. In most cases it is better to take lodgings near the river; but when the banks are low such a situation is not desirable, and the nearest high and dry spot should be preferred. It is commonly supposed that in training early hours are requisite, and with those who have been all their lives accustomed to them no doubt they are; but when the habit has been different, I think it much better to allow a moderate indulgence in the morning's bed, rather than attempt to break through long-established custom, to which the constitution has been inured. If the training is in the height of summer, it is desirable to get through most of the work in the cool of the morning and evening; but if the weather is not very oppressive, the plan, in my opinion, is not a good one. As a rule, therefore, I should advise the following, subject to variations, according to the time of the year and the state of the weather. All should turn out of bed at eight o'clock; they should be well sponged all over with cold water, or they may take a mere plunge into the river and out again. On no account should they remain in the water even for five minutes. They should then be well rubbed with a coarse towel, and be dressed by half-past eight. From this time till breakfast, at nine o'clock, let all take a gentle run, or smart walk, and come in to the meal without fatigue, but prepared to enjoy it. The best kind of food for the various meals is given under the head of Pedestrianism, to which the reader is referred for full particulars on this subject. After breakfast, a couple of hours may be passed in any innocent, but not violent bodily amusement, such as billiard playing, skittles, quoits, &c., which will bring us up to half-past eleven, a.m., at which time the crew should be got together in the boat, and should get their morning's practice, which will on the average take them till half-past one. On getting out of the boat, all should take a good run, varying in speed and distance according to the directions of the trainer. At two o'clock, or half-past two at latest, after being rubbed dry and the linen changed, dinner may be announced, and this meal may occupy the time till three or half-past three, p.m., according to circumstances. After dinner a gentle stroll or a book may be indulged in till five or six o'clock, when another hour may be consumed in practising on the water. On coming in from this evening row, supper may be got ready at eight o'clock, and at nine or ten o'clock to bed.

RUNNING EXERCISE.—The speed and length of run which are to be daily maintained in order to obtain that condition of the lungs and heart which shall enable the oarsman to go through his task, must in great measure depend upon the state of the individual. In these directions I am assuming that the health is good, that a fair amount of exercise has been habitually taken, and that the body is prepared to go through its task without risk. I have already directed that all should take a walk or run for half an hour before breakfast; in most instances a smart run of three miles will be about the best distance; and two or three running together will add to the excitement, and take off from the weariness of the task. I think a short spin across country, with moderate fences or ditches, or small towing-path gates, better than a dull steady run; and the pace should vary from five miles per hour to an occasional spirt at the top speed. It is never, however, to be maintained at such a pace as to produce perspiration to any extent; and if the weather is very warm, the hours should be early in proportion. The dress should be the usual boating flannel trowsers, with a light woollen jacket, and should never be so heavy as to weigh down the animal spirits. Nothing is of more importance than this, for much depends in training upon keeping up that buoyancy of feeling which man in a state of high health ought always to experience. This quantity of running exercise will in most cases be enough; but sometimes when the wind is thick, with a very strong constitution, a longer and slower walk or run should be taken in addition, beginning an hour after breakfast, and keeping it up till the time for practice at half-past eleven, but taking great care to

be cooled down before getting into the boat.

SEPARATE PRACTICE.—It is seldom that a trainer has the opportunity of acting upon the raw material; he finds certain oarsmen ready-made to his hands, and he has to make the most of them, whether bad, good, or indifferent. The first thing to be done is to select a "stroke," and to do this requires considerable judgment. I am supposing that the trainer has this power of selection, which I am quite sure he ought always to possess. Now it must be remembered that the best oar is not always fit for the "stroke" oar; many men are exceedingly good behind another, who yet have so little judgment, and in some instances are so deficient in "time," that they throw out a crew directly they are placed next the coxswain. A "stroke," therefore, requires to be not only a good oar, but of indomitable pluck, so as to be able to get up a "spirt" whenever wanted, and to rouse an exhausted crew by the force of his example. He also ought to possess great presence of mind, in order to enable him to avoid hurrying his stroke when pressed, and a keen perception of time, so that he shall not vary it more than is absolutely required. Having made this selection of a "stroke oar," the next point is to allot to each man his proper place, which can seldom be done without a few trials. In ascertaining the relative strength and lasting powers of the individuals composing the crew, there is nothing like a strong pair-oar, in which the two men whose powers are in question may be placed with the captain; and then, by pulling against one another, it is easy to discover, not only the strength, but the pluck of each. But this trial can only fairly take place between men of nearly the same weight; for a man of 13st. may be able to pull round a 10st. man, and yet not "pull his weight" nearly so well; seven pounds may fairly be given or taken, but more than that should be allowed for. Having, as nearly as possible, decided upon the place which each man shall occupy, the next point is to bring every man up to the standard of the "stroke oar" in style and strength. For this purpose a waterman is almost imperatively necessary, for reasons which will presently appear, and one should be selected whose style resembles that of your own "stroke oar," and they (that is, the stroke and waterman) should, if possible, have rowed together, so as to be easily substituted one for the other. Now, it will be recollected that in the daily routine I have left the hours from half-past nine till half-past eleven, a.m., and from four till six o'clock, p.m., without any specific occupation. These hours I should employ as follows:—In the first place I should put my "stroke oar" and No. 7 in a pair-oar, and take them out for an hour's gentle practice, so as to thoroughly accustom the latter to the style and time of the former. This is of great importance, because unless No. 7 in an eight-oar, or No. 3 in a four-oar, keep good time, and pull in the same style, and with the same hold of the water as the "stroke," it is hopeless to expect a good result. Quickening on the stroke is a very common fault in either No. 3 or No. 7, and it should be checked at once, since it sets the whole bow-side out of stroke with their opposites. It consists in these men bringing their oars out before that of "stroke," and is easily remedied by making them take more water; or, if unable to do that, taking a deeper hold; or, if finishing in the air, as is often done, then making them pull their stroke through. Let the task be repeated every other day, or even daily, till the two row perfectly together without the slightest tendency to quicken. Next, let the trainer put No. 6 into the boat with the waterman for another hour, and after dinner let No. 5, and if possible No. 4, each have an hour's practice with him. Thus, by taking half the crew out in pair-oars daily, each man will be modelled upon the form of your "stroke," and come under the trainer's eye every day; and he may then be easily cured of any bad habits which in an eight-oar can hardly be detected. Without a waterman this can scarcely be effected, or at all events not nearly so well; but, with his aid, more progress will be made in one week than could be effected in a month's practice confined to an eight-oar only. It is manifestly out of the question to expect your "stroke" to go out with each man of the crew; yet either he or a substitute ought to do so. Every one ought to copy the style of "the stroke" in the minutest particular; and yet it is quite impossible for a man in the bows of an eight-oar to see either his back or even his oar without looking, and most probably, rowing out of the boat. Indeed, it is a rule which ought to be diligently followed, that each man should carefully avoid looking at his own oar, or any other object, but the back of his nearest man, and consequently he cannot possibly mould himself upon the form of any one but that man. The result is as follows:—"Stroke oar" rows well, but with a fault, which we will call *a*; No. 7 catches

the style of "stroke," including fault *a*, and superadding fault *b*; No. 6 perhaps exactly imitates No. 7, and transmits both the faults *a* and *b* to No. 5, who, in addition, gives to No. 4 his own little pet fault *c*, and so on. From this it results that poor No. 2, or bow-oar, instead of being the neatest oar in the boat, is likely to inherit all the faults of the whole crew, if his practice is confined to the eight-oar. By practising, however, as I have advised, separately in the pair-oar, they, one and all, adopt the style of the "stroke," or of his substitute the waterman; and then when put together, they require no "coaching" to make them row well together, or, at all events, only an amount of practice much less than would otherwise be needful. It is a well known fact that in copying statues by means of plaster of Paris, &c., if the copy is again cast and the operation repeated, in process of time the most absurd distortions occur; because each cast differs, however slightly, from the original, and these slight differences being transmitted through several copies, at last are accumulated into a grand table of deformity. But by always having recourse to the original cast, and keeping that for the express purpose, no further difference is perceived than is inseparable from the nature of the material and the want of care in the workman. Just so is the case with the imitation going on in a boat's crew during practice, and therefore I have advised the above plan, which I have found of the greatest possible use in actual practice. By its adoption I would undertake to get any eight men, however raw, to row well together in a fortnight's practice, provided they are in earnest, and at the commencement have sufficient command of their oars to avoid crabs, &c. Every coxswain must have experienced the difficulty which there is in explaining to a man while in the eight-oar the nature of any defect in his style, and the best mode of remedying it, and has been compelled to postpone the lecture until the practice is over. But then it is truly a lecture, and not a demonstration, since he cannot do more than explain theoretically what he means to be remedied. This, however, he does as well as he can, and at the next "practice" has the mortification of finding that the fault is still committed, or perhaps replaced by one in the opposite extreme. In the pair-oar, however, the rowing may be stopped a hundred times, if necessary, till the directions of the coxswain are fulfilled; and it is very seldom, in a man of ordinary capacity, that a second demonstration is required. With a very raw crew it is better to postpone the getting into the eight-oar at all until the whole crew have been each separately drilled, either with the "stroke" or with the waterman; and at this period, when they all go out separately, the "stroke" may very well undertake the tuition of Nos. 7, 6, and 5, while the waterman takes Nos. 4, 3, 2, and bow. If each of these has an hour's practice, the trainer will consume, including the time lost in altering stretchers, &c., at least eight hours per day, which is quite enough for any man to go through. In this case more time must be given by all to running and walking, and the amount of work must be severally apportioned by the trainer to each; for, as the practice on the water is necessarily limited to an hour a day each, instead of two hours and a half, or even three hours, a greater amount of work must be done on the land in order to get the body into the highest condition. By the above plan I think it will generally be found that even a raw crew may be fit to be put into an eight-oar two or three days after first coming together; but even then they will require the occasional pair-oar practice which I have recommended. For the treatment of blisters, chapped hands, &c., see "Pedestrianism."

PRACTISING TOGETHER.—At page 553, I have allotted two hours for the morning practice, and one for the evening, which be about the *maximum* amount of work needful for a crew. The *minimum* must depend upon a variety of circumstances, such as weather, state of forwardness, both in condition and training, &c., &c.; but I think beyond three hours a day no crew will derive much benefit. On first starting, it is prudent to allow matters to take their own course for a couple of miles, keeping up a steady, long, and rather slow stroke, and only demanding that all should row as steadily and well as they can. I have known great discouragement most unnecessarily given by the coxswain or "stroke" finding fault at the first trial; it cannot be expected that men, even if good oars, shall get settled into their places at once; and I have often found that by a little patience and encouragement the same crew which for a mile or two could scarcely avoid "crab-catching," have finished their morning's practice by an exhibition of a totally different character. As soon as the boat begins to go along tolerably steadily, it will be time for the coxswain to look out for the particular oars which require correction, and he must now at once proceed to repeat those cautions

and directions which he has previously given in the pair-oar. It will be generally found that after an hour's steady "paddling" the crew begins to improve rapidly, and then it will be better to rest for eight or ten minutes. Every man should carry with him a piece of clean sponge, and he may during this interval dip it in the water and wash out his mouth, which will greatly refresh him; but no water should be swallowed, or not more than a tablespoonful at all events. After this little break, during which stretchers, &c., may be altered, the remainder of the practice may be filled up by another steady "paddle," with the same long steady stroke, not too quick through the water or on the feather, so that all may keep up to it without distress. It is of the greatest importance towards getting a crew to row well together, not to let them at any time row in a careless or slovenly manner, and not to practise them when so tired as to have lost their control over their oars. Hence, I think, rowing twice a-day far better than doing all at one time; and I also think the first period should be longer than the second. The evening row should be conducted on the same principles as the morning's work—stopping in the middle only just long enough to wash the mouth out, or to make any necessary alteration in the boat. In a few days it will be found that by continuing these long steady "paddles" the rowing is so much improved, that a "spirt" may be attempted; but this should be only when the coxswain has cast his eyes down the oars and sees all fully under command; he should then ask "stroke" if he is ready, and, on receiving an answer in the affirmative, let him call out to the crew to prepare for a spirt. This is very necessary in the early days of training, as it puts all on their guard, and after the long, steady practice, the attention has been in some measure taken off by the uniformity of the stroke, and the mechanical nature of the work. This spirt should be continued till the boat begins to rock, when it is better to "ease all" than to attempt altering the stroke into a milder one. I have generally found that for the first ten days two spirts in each practice were enough, continued for about forty or fifty strokes, and giving one just before the break in the middle of the practice, and the other at the end. By steadily and patiently proceeding in this way, it is astonishing what improvement may be effected in ten days, at which time it will be necessary to begin to row the distance which is to be the scene of the future contest. Whatever that distance may be, whether with tide or against stream, if possible, that same water should be rowed over twice a day, and the time should be carefully taken by the coxswain. The reason for this last proceeding is not only for his information and guidance, but also for the purpose of keeping the whole crew up to their work. It is, in fact, rowing against time, instead of against another crew, and there is consequently some emulation excited, which is one grand principle in training. It is not perhaps desirable, nor is it in fact possible, to distress men as in a race; they will naturally take sufficient care of themselves; but it is quite imperative that they should lay out their strength during the whole distance in the same proportion as "the stroke." At first the start for this should be very steady, but after a few days it may be made exactly as in the actual race; and let the distance be what it may, the pace should be regulated just as would then be done, avoiding bursting the men, but at the same time keeping the stroke as long, strong, and quick as the condition will allow it to be maintained. The coxswain and stroke must arrange this together, the latter feeling his own strength, and judging how far it will last, and also how much he is "backed up" by those behind him, whilst the former is able to see if any one or more is so much "baked" as to require consideration. In all this, however, considerable experience is necessary; yet one grand point is, that these two should thoroughly co-operate. As I before remarked, it is not my purpose to go into the instructions for using the oar or sculls, I shall therefore conclude this part of my subject by the assertion, that if the above plan is followed strictly for three or four weeks, by a careful coxswain, with good judgment, assisted by a good stroke, and a strong useful crew, the rowing together and condition will be as good as that crew will be capable of without a very much longer time together. It will seldom be possible to keep men together longer than this; and if all are tolerably good oars at the beginning, and in good condition, half this time will be long enough. But in the above estimate I am calculating on nearly all being unfinished oars, though in a forward state of condition. In a pair-oar or sculling-boat the same amount of work must be done; and there also the division of practice into two periods is better than one. In both cases the trainer should be in another boat alongside, either sculling or steering a four-oar, which latter is necessary if the trainer is unable to use the

sculls, since the weight in the stern will tell too much in a pair-oar to allow of its keeping up with a sculler or a pair-oar without a sitter.

TREATMENT ON THE DAY OF THE RACE.—In every respect let the walking exercise and breakfast be as usual; then amuse your crew and keep them together as well as you can till about two hours before the race, when they should each have a good meal of roast leg of mutton and bread, with a pint of beer, or whatever drink they are accustomed to. The quantity should be rather within the usual allowance, especially if the race is to take place in less than two hours; and I am satisfied that mutton is far better for the wind than beef-steak, and roast better than a broil. Just before stepping into the boat a wineglass of egged-sherry may be given to each man, but though it is very commonly used, I am not at all sure that it is really beneficial. No doubt it gives power, but in many cases it appears to injure the wind, and in delicate stomachs it often produces nausea. Unless, therefore, it has already been proved to agree, it should be cautiously given. If, however, a second heat is to be rowed on the same day, egged-sherry, or some similar compound is required, and should then be given about half-an-hour before the second race; but if two hours intervene, a very light meal of mutton and bread, with half-a-pint of beer, may be taken as soon as the effects of the first race are gone off, and then the glass of egged-sherry on getting again into the boat.

SECT. 2.—REGATTAS.

REGATTAS, as boat-races are called, are not nearly so popular as they were some years ago, when an effort was made to introduce them very generally upon the inland waters of England. The inequality of the contest, in most cases, renders these races more uninteresting to the unlearned spectator than any other kind of race; and the consequence is, that failing to attract a crowd they did not keep hold of the attention of the people; and they have now been reduced to a very few, among which Henley still holds its front rank as an amateur contest, the Thames National as a waterman's regatta, and the Manchester and Salford as that of both combined. This last locality will now be able to boast of having beaten All England in the recent contest at Putney; and their finished style, as well as that of their nearly even competitors, the Elswick crew, does great credit to their respective trainers. Both of these crews are moulded upon H. Clasper's style; using his peculiar oars, and keeping the knees close together; and most of the men are either directly or indirectly pupils of the "renowned Harry." The London crews are not certainly what they were, and R. Coombes is beyond his prime, leaving no one to replace him; so that, though the provinces have wrested his laurels from him, they can scarcely be said to be proved superior to what the London watermen were. Nevertheless, the Northern crews are first-rate; and I am by no means sure that they would not have pushed their boat's nosé in first in the palmy days of the Thames Regatta. Cambridge and Oxford still maintain their annual contests; and they are now the only seats of the eight-oared boat-race, with the exception of Henley, and a scratch-race on the Thames at the conclusion of each day's racing. At both universities the race is a stern-race, all the boats starting in order one after another, with a clear boat's length between them; and if any boat can "bump" the one before her, the boat so bumped must row into the bank, and give up her place to the successful one. At the next contest she takes one place lower down, and the other has her place; and so on, often for several bumps in succession. A boat may even bump two, one after the other, in the same race; but I believe more than this number has never been accomplished.

REGATTAS are under the management of a committee, who elect stewards, a secretary, and umpire; the several duties of which will be explained by the rules, which vary at different places; but the annexed will suit all but the universities, which have their own fixed rules and regulations, depending upon the unusual condition of rowing one after the other, instead of abreast.

SECT. 3.—GENERAL RULES OF BOAT-RACING.

Rule 1.—That notice be given to the secretary of the regatta, of any crew or club intending to compete for either of the prizes, with the names of its captain and secretary, and a list of those members from whom the rowing crew is to be selected, on or before the day of

Rule 2.—That all objections and other matters for the consideration of the stewards shall be made and submitted in writing, and objections to any crew or club entered shall be made in writing, to the secretary of the regatta, on or before the day of

; and the committee shall investigate the grounds of objection, and decide thereon on or before the .

Rule 3.—That the entrance-money to be paid to the secretary of the regatta at the time of entering, by each crew or club purposing to contend for the respective cups, be as follows:—

Rule 4.—That the entrance-money be applied towards defraying any expenses incidental to the regatta.

Rule 5.—That at the meeting of the committee on the evening preceding the regatta, the captain or secretary of each crew or club entered, shall deliver to the secretary of the regatta *a list containing the names of the actual crew appointed to contend in the ensuing races*; and no person will be considered eligible whose name is not also included in the list required by the first general rule.

Rule 6.—That, in the event of a dead heat taking place, the same crews shall contend again, or the crew refusing shall be adjudged to have lost the heat.

Rule 7.—That no member of a club shall be allowed to be substituted for another who has already rowed a heat; nor shall any member of a club be allowed to row with more than one crew in any of the races for the same cup.

Rule 8.—That all crews or clubs purposing to contend at this regatta, provide themselves with small colours or flags, to be carried in the bows of their boats.

Rule 9.—That the distance rowed for the —— races be about —— miles—namely, from —— to ——, and for the —— races from —— to ——.

Rule 10.—That, if there be more competitors than are sufficient for one heat, the names of the boats shall be written on separate pieces of paper and thrown into a hat, and the first drawn therefrom shall contend for the first heat, followed at such an interval as the stewards shall direct by the remaining boats. Should there be an uneven number, the last remaining in the hat shall contend with the victor on the following day.

Rule 11.—That in each race, if the river is narrow, one half shall be allotted to each boat, the captains of which shall toss for choice. If the river is wide enough to admit of more boats than two, they shall each start from a fixed station, and keep their respective courses; and if any boat while in her course is fouled by another, the latter shall be put out of the race by the umpire's signal. No boat is to be allowed to take the water of another unless she has a clear lead of a boat's length, in which case she may take any course she pleases, and that one becomes hers from that time.

Rule 12.—That no fouling be permitted; and in case any shall take place, either by accident or otherwise, it shall be declared by the umpire at the time of its occurrence by lowering his flag, and the race shall be at an end as regards the boat fouling.

Rule 13.—That every boat shall be steered by a member of the club or clubs contending for the prize.

Rule 14.—That an umpire and judge be chosen by the committee, and named on the morning of the race.

Rule 15.—That the start be directed by the umpire, or any one he may appoint, who shall first ask, "Are you ready?" if answered in the affirmative, he shall then order or make a sign for the boats to start.

Rule 16.—That the umpire do start the boats punctually to the time appointed; and any boat not present at the time named, be considered as drawn; and that if a boat alone be started, it should be deemed the winner.

Rule 17.—That any start made before the umpire's signal shall be deemed a false start, and the boats shall return to their stations for a fresh one.

Rule 18.—That in case of a "Challenge Cup," it be delivered to the captain and crew of the winning boat on the second day of the regatta, who shall subscribe their names to a document, to the following effect:—

"We, A.B., C.D., &c., the captain and crew of the
and members of the
Club, having been this day declared to be the winners of the Grand Challenge Cup, and the same having been delivered to us by E. F., G. H., I. K., &c., the acting-stewards of the regatta, do hereby individually and collectively engage to return the same to the stewards, on or before the of next, in accordance with the conditions of the annexed rules, to which we have also subscribed our respective names."

Rule 19.—That the stewards, on the return of the cup, retain it until the ensuing contest shall be decided; but in the event of no contest taking place, the cup shall be restored to the former holders, in case they appear, or to any other crew that shall enter on the same terms as winners. But if the possession of this cup shall not be contended for for two successive regattas, it shall then become the property of the

stewards, to be disposed of by them in such manner for the benefit of the regatta as they may think fit.

Rule 20.—That if the same club or crew win the Challenge Cup for three successive years, the cup becomes the property of such club or crew.

Rule 21.—That two boats do enter, or the prize, except in the case of the Challenge Cup, will not be given.

Rule 22.—That all questions of eligibility, qualification, or construction of the rules, be left to the committee, whose decision shall be final.

Rule 23.—That the committee have power to amend and alter the rules as they from time to time shall deem expedient.

Sect. 4.—The Race.

The Race is managed under the direction of the starter, the umpire, and the judge. The starter is either in a boat or on the shore; and he either starts the boats by the word "off," or by the report of a pistol, according to agreement, if a match, or the decision of the committee, if a regatta. It is usual to ask the crews, "Are you ready?" when, on receiving a distinct answer from each in the affirmative, the signal is given. The umpire then has the boats in charge till the conclusion of the race; and his duty is to see in case of a foul which is the offender, and to decide accordingly, according to rules 11 and 12. He is usually rowed in an eight-oar by watermen; and he should be a little astern of the last competitor, and on his outside quarter. Sometimes, in narrow rivers, the umpire is on horseback on the bank, but on the Thames he is usually in the leading steamer. The judge is stationed at the winning-post, and is simply to name the winning-boat.

Sect. 5.—Purchase of Boats.

Racing-Boats are now built at various places, Clasper having first broken the charm which before his time was supposed to reside in University or Thames-built boats. Messrs. Searle and Wyld are the chief London builders, besides several of lesser note on the banks of the Thames. Mr. Searle's chief establishment is now at Putney, but Mr. Wyld has a yard at Lambeth. Messenger at Kingston also builds a considerable number of boats, and has gained a high reputation. Taylor of Newcastle, was for some time the fashionable builder of fours and eights, but Salter of Oxford is now (1866) admitted to be at the head of the trade in that department.

The Price of yachts is about 20*l.* per ton, when complete with all stores; that of gigs and racing-boats is one guinea per foot of length, if built to order; but they may generally be obtained at a somewhat lower price by special agreement, and at half-price, or less, second-hand, according to the condition and age. These boats, however, are so fragile that they ought to be carefully examined by a competent person before buying them. The following may be considered the ordinary price of new, nearly new, and second-hand yachts and boats, complete with all gear and stores:—

Scale of Prices.

	New.	Nearly New.	Second-hand.
	£	£	£ £
Six-ton model yacht . . .	120	100	50 to 80
Fifty-ton yacht	800	600	300 „ 400
Eight-oared outrigger . . .	65	45	25 „ 30
Four-oared „ . . .	45	35	20 „ 25
Pair-oared „ . . .	35	25	12 „ 15
Sculling-boat „ . . .	30	25	10 „ 12
Six-oared gig	35	30	20 „ 25
Four-oared gig	30	25	15 „ 20
Pair-oared gig	25	20	10 „ 15

PART III.

RURAL GAMES AND OUT-DOOR AMUSEMENTS.

BOOK I.—GAMES PLAYED WITH BALL.

CHAPTER I.
CRICKET.

Sect. 1.—General Remarks.

Cricket is, in rural amusements, what billiards are to the denizen of the city. At once a game of bodily skill and mental calculation, it requires for its successful cultivation the union of great physical activity and courage, with considerable powers of mind, and great self-control, especially in some of the more difficult departments—such as bowling, wicket-keeping, &c., &c. Until within the last 80 years this game was very rarely played, but there is plenty of evidence as to its existence as a game in the sixteenth century, and probably earlier even than that. But it is chiefly in the present century that cricket has become popular with all classes, and that it has taken the position which it now enjoys, as the leading national game played out of doors. There are several peculiarities in which cricket stands unrivalled at present, and which I trust may long be preserved to it. These are—first, its uniting all classes, for the peer and the peasant are constantly seen in the same eleven, and in a county-match the best men will be selected, let their position in society be what it may; secondly, the general absence of gambling, for though betting cannot be entirely prevented, it is less associated with cricket than with any other sport of the same degree of popularity; thirdly, its healthful tendency; and fourthly, the absence of intemperance as an adjunct. It is now the favourite game of the country village and the county town, as well as of the larger commercial cities, and of the great metropolis itself, where the M.C.C. at Lord's and the Surrey Club at the Kennington Oval, as well as some others of less note, keep cricket going throughout the season. This lasts from spring to late autumn; depending a good deal upon the weather, for it is a game which requires a dry sod, as well as freedom from any present fall of rain.

Sect. 2.—Cricketing Materials.

The Essentials for this fascinating game are—first, the ball; secondly, the bats; thirdly, the wickets, consisting of three stumps, and two balls at each end—these are all defined by the rules given in the next section; and fourthly, the ground, which should be a field of as short and level turf as can be procured, and made still more level by the use of the roller.

The Accessories generally required, though not absolutely essential, are—first, a line 22 feet long, with a frame of wood 6 feet 8 inches by 4 feet, for measuring the ground, and fixing the popping and bowling creases; secondly, a tent, in case of rain or very hot sun; thirdly, scoring-books (Lilly-white's); fourthly, gloves and leg-guards, to protect the hands and legs from the severe blows of the ball in fast bowling; and spiked shoes to prevent the feet from slipping when the grass is short.

The Game of Cricket is Played either as what is called "The Single-Wicket Game," or as "Double-Wicket."

Single-Wicket requires one wicket, one popping crease, one bowling crease, one ball, one bat, and any number of players arranged in two sides, not exceeding seven or eight of a side. With these the game is played subject to the special laws of single-wicket, which differ in some essential points from those of double-wicket.

Double-Wicket is played with one ball, two bats, two wickets, two popping creases, two bowling creases, and two sides of players—one of which shall consist of 11, but the other, though usually confined to the same number, may be extended to any other. Two Umpires are also appointed to decide upon the proper carrying out of the rules.

Sect. 3.—The Laws of Cricket.

The following Laws are those which

CRICKET POSITIONS.

THE CRICKET FIELD. P. 560.

are now universally employed throughout England and Scotland, having been carefully revised by the Marylebone Club, that being the highest authority in this game:—

LAWS OF DOUBLE WICKET.

1.—THE BALL must weigh not less than five ounces and a half, nor more than five ounces and three-quarters. It must measure not less than 9 inches, nor more than 9¼ inches in circumference. At the beginning of each innings either party may call for a new ball.

2.—THE BAT must not exceed 4¼ inches in the widest part; it must not be more than 38 inches in length.

3.—THE STUMPS must be three in number; 27 inches out of the ground; the bails 8 inches in length; the stumps of equal and of sufficient thickness to prevent the ball from passing through.

4.—THE BOWLING CREASE must be in a line with the stumps; 6 feet 8 inches in length; the stumps in the centre; with a return crease at each end towards the bowler at right angles.

5.—THE POPPING CREASE must be 4 feet from the wicket, and parallel to it, unlimited in length, but not shorter than the bowling crease.

6.—The wickets must be pitched opposite to each other by the umpires, at the distance of 22 yards.

7.—It shall not be lawful for either party during a match, without the consent of the other, to alter the ground by rolling, watering, covering, mowing, or beating, except at the commencement of each innings, when the ground shall be swept and rolled, unless the side next going in object to it. This rule is not meant to prevent the striker from beating the ground with his bat near to the spot where he stands during the innings, nor to prevent the bowler from filling up holes with sawdust, &c., when the ground shall be wet.

8.—After rain the wickets may be changed with the consent of both parties.

9.—THE BOWLER shall deliver the ball with one foot on the ground behind the bowling crease, and within the return crease, and shall bowl four balls before he change wickets, which he shall be permitted to do only once in the same innings.

10.—The ball must be bowled; if thrown or jerked the umpire shall call "no ball."

11.—He may require the striker at the wicket from which he is bowling to stand on that side of it which he may direct.

12.—If the bowler shall toss the ball over the striker's head, or bowl it so wide that in the opinion of the umpire it shall not be fairly within the reach of the batsman, he shall adjudge one run to the party receiving the innings, either with or without an appeal, which shall be put down to the score of wide balls; such ball shall not be reckoned as one of the four balls; but if the batsman shall by any means bring himself within reach of the ball, the run shall not be adjudged.

13.—If the bowler deliver a "no ball" or a "wide ball," the striker shall be allowed as many runs as he can get, and he shall not be put out except by running out. In the event of no run being obtained by any other means, then one run shall be added to the score of "no balls" or "wide balls," as the case may be. All runs obtained for "wide balls" to be scored to "wide balls." The names of the bowlers who bowl "wide balls" or "no balls" in future to be placed on the score, to show the parties by whom either score is made. If the ball shall first touch any part of the striker's dress or person (except his hands), the umpire shall call "leg bye."

14.—At the beginning of each innings the umpire shall call "play;" from that time to the end of each innings no trial ball shall be allowed to any bowler.

15.—THE STRIKER IS OUT if either of the bails be bowled off, or if a stump be bowled out of the ground;

16.—Or, if the ball, from the stroke of the bat, or hand, but not the wrist, be held before it touch the ground, although it be hugged to the body of the catcher;

17.—Or, if in striking, or at any other time while the ball shall be in play, both his feet shall be over the popping crease, and his wicket put down, except his bat be grounded within it;

18.—Or, if in striking at the ball he hit down his wicket;

19.—Or, if under pretence of running, or otherwise, either of the strikers prevent a ball from being caught, the striker of the ball is out;

20.—Or, if the ball be struck, and he wilfully strike it again;

21.—Or, if in running, the wicket be struck down by a throw, or by the hand or arm (with ball in hand), before his bat (in hand) or some part of his person be grounded over the popping crease. But if both the bails be off, a stump must be struck out of the ground;

22.—Or, if any part of the striker's dress knock down the wicket;

23.—Or, if the striker touch or take up

the ball while in play, unless at the request of the opposite party;

24.—Or, if with any part of his person he stop the ball, which in the opinion of the umpire at the bowler's wicket shall have been pitched in a straight line from it to the striker's wicket, and would have hit it.

25.—If the players have crossed each other, he that runs for the wicket which is put down is out.

26.—A ball being caught no runs shall be reckoned.

27.—A striker being run out, that run which he and his partner were attempting shall not be reckoned.

28.—If a lost ball be called, the striker shall be allowed six runs; but if more than six shall have been run before "lost ball" shall have been called, then the striker shall have all which have been run.

29.—After the ball shall have been finally settled in the wicket keeper's or bowler's hand, it shall be considered dead; but when the bowler is about to deliver the ball, if the striker at his wicket go outside the popping crease before such actual delivery, the said bowler may put him out, unless (with reference to the 21st law) his bat in hand, or some part of his person be within the popping crease.

30.—The striker shall not retire from his wicket and return to it to complete his innings after another has been in, without the consent of the opposite party.

31.—No substitute shall in any case be allowed to stand out, or run between wickets for another person without the consent of the opposite party; and in case any person shall be allowed to run for another, the striker shall be out if either he or his substitute be off the ground in manner mentioned in laws 17 and 21, while the ball is in play.

32.—In all cases where a substitute shall be allowed, the consent of the opposite party shall also be obtained as to the person to act as substitute, and the place in the field which he shall take.

33.—If any fieldsman stop the ball with his hat, the ball shall be considered dead, and the opposite party shall add five runs to their score; if any be run they shall have five in all.

34.—The ball having been hit, the striker may guard his wicket with his bat or with any part of his body except his hands; that the 23rd law may not be disobeyed.

35.—The Wicket Keeper shall not take the ball for the purpose of stumping until it have passed the wicket; he shall not move until the ball be out of the bowler's hand; he shall not by any noise incommode the striker; and if any part of his person be over or before the wicket, although the ball hit it, the striker shall not be out.

36.—The Umpires are the sole judges of fair or unfair play; and all disputes shall be determined by them, each at his own wicket; but in case of a catch which the umpire at the wicket bowled from cannot see sufficiently to decide upon, he may apply to the other umpire, whose opinion shall be conclusive.

37.—The umpires in all matches shall pitch fair wickets; and the parties shall toss-up for choice of innings. The umpires shall change wickets after each party has had one innings.

38.—They shall allow two minutes for each striker to come in, and ten minutes between each innings. When the umpire shall call "play," the party refusing to play shall lose the match.

39.—They are not to order a striker out unless appealed to by the adversaries.

40.—But if one of the bowler's feet be not on the ground behind the bowling crease and within the return crease when he shall deliver the ball, the umpire at his wicket, unasked, must call "no ball."

41.—If either of the strikers run a short run, the umpire must call "one short."

42.—No umpire shall be allowed to bet.

43.—No umpire is to be changed during a match, unless with the consent of both parties, except in case of violation of the 42nd law; then either party may dismiss the transgressor.

44.—After the delivery of four balls the umpire must call "over," but not until the ball shall be finally settled in the wicket keeper's or bowler's hand; the ball shall then be considered dead; nevertheless, if an idea be entertained that either of the strikers is out, a question may be put previously to, but not after, the delivery of the next ball.

45.—The umpire must take especial care to call "no ball" instantly upon delivery; "wide ball" as soon as it shall pass the striker.

46.—The Players who go in second shall follow their innings, if they have obtained eighty runs less than their antagonists, except in all matches limited to only one day's play, when the number shall be limited to sixty instead of eighty.

47.—When one of the strikers shall have been put out, the use of the bat shall not

be allowed to any person until the next striker shall come in.

NOTE.—The Committee of the Marylebone Club think it desirable that, previously to the commencement of a match, one of each side should be declared the manager of it; and that the new laws with respect to substitutes may be carried out in a spirit of fairness and mutual concession, it is their wish that such substitutes be allowed in all reasonable cases, and that the umpire should inquire if it is done with the consent of the manager of the opposite side.

Complaints having been made that it is the practice of some players when at the wicket to make holes in the ground for a footing, the Committee are of opinion that the umpires should be empowered to prevent it.

LAWS OF SINGLE WICKET.

1.—When there shall be less than five players on a side, bounds shall be placed 22 yards each in a line from the off and leg stump.

2.—The ball must be hit before the bounds to entitle the striker to a run, which cannot be obtained unless he touch the bowling stump or crease in a line with his bat, or some part of his person, or go beyond them, returning to the popping crease as at double wicket, according to the 21st law.

3.—When the striker shall hit the ball, one of his feet must be on the ground, and behind the popping crease, otherwise the umpire shall call "no hit."

4.—When there shall be less than five players on a side, neither byes nor overthrows shall be allowed, nor shall the striker be caught out behind the wicket, nor stumped out.

5.—The fieldsman must return the ball so that it shall cross the play between the wicket and the bowling stump, or between the bowling stump and the bounds; the striker may run till the ball be so returned.

6.—After the striker shall have made one run, if he start again he must touch the bowling stump, and turn before the ball cross the play to entitle him to another.

7.—The striker shall be entitled to three runs for lost ball, and the same number for ball stopped with hat, with reference to the 28th and 33rd laws of double wicket.

8.—When there shall be more than four players on a side there shall be no bounds. All hits, byes, and overthrows shall then be allowed.

9.—The bowler is subject to the same laws as at double wicket.

10.—Not more than one minute shall be allowed between each ball.

BETS.

1.—No bet upon any match is payable unless it be played out or given up.

2.—If the runs of one player be betted against those of another, the bet depends on the first innings, unless otherwise specified.

3.—If the bet be made on both innings, and one party beat the other in one innings, the runs of the first innings shall determine it.

4.—If the other party go in a second time, then the bet must be determined by the number on the score.

SECT. 4.—THE GAME.

IN SINGLE WICKET the stumps are driven into the ground subject to the 3rd and 5th laws of double wicket; and in front of them a popping crease is marked off, in accordance with law 5. At twenty-two yards from the wicket a bowling stump is usually fixed, but a bowling crease, as defined by the 4th law, *must* be marked at the proper distance, and here the bowler must deliver his balls, as defined by laws 9, 10, 12, 18, and 14. The game is defended by the batsman, or striker, who stands at the popping crease; and he is bound by the laws of single-wicket, when they are in opposition to the usual rules, both of which may be referred to. The attack is conducted by the other side, placed in the field according to their numbers. Bounds are marked off when there are less than five players of a side, according to law 1; and in that case no wicket keeper is required, and all the fielders may be in front of this line.

DOUBLE WICKET may be considered, for all practical purposes, to consist of two sides of eleven players each. One of these, according to the result of the "toss for sides," has the first innings, and two of their party defend the wickets with a bat each, the others being at liberty till their turns come respectively. By the other side, who are now "fielding," the attack is maintained; their object being to "take the wickets" of the strikers, by bowling at either of them four balls consecutively from the bowling crease of the opposite wicket. If the bail of the wicket is knocked off by the ball, or the stump is bowled out of the ground, or if any of the events occur which are defined by law 15, and following ones up to 34, the striker is "out," and is replaced by another of his party, until the whole side are put out *seriatim*.

If, on the other hand, the ball is struck by the striker, or if certain other contingencies happen (for which see rules), the striker may run to the opposite popping crease and score one, and back again, or even a second time, or more, if possible; for each of which "runs" a score of one is to be made. The side which makes the greatest score is the winner.

THE MANAGEMENT OF THE SIDES is as follows:—In club-games two managers or captains are fixed upon, one for each side, who are generally the two best bowlers, they being the most scarce and valuable players; these choose their ten assistants, one after the other, from the members present, and allot to each their respective positions when fielding. In matches, the match is first made between two clubs, and then the eleven players are selected from each club by a committee, or by general consent, or by first appointing a manager, who then picks out his men, and afterwards takes their entire control in the field.

THE FIELDING requires the following men for the several places, which are filled up by those who are best qualified, according to the opinion of the manager. Thus, some men are fit for one place, and yet are very bad in another; and, consequently, the eye of an experienced cricketer is required to select them and fix them accordingly. One bowler at a time is indispensable, who bowls four balls, called an "over," and then the whole of the fielders walk over to the opposite side of the field, and another "over" of four balls is delivered from the opposite wicket by another bowler. In this way there is a constant walking from one side to the other, which has its advantages, because it prevents the danger of catching cold in bad weather, that might result if the same position were maintained for a longer period. The following diagram will explain the position of the eleven men in an "over" by a fast bowler, as well as those of the strikers and umpires:—

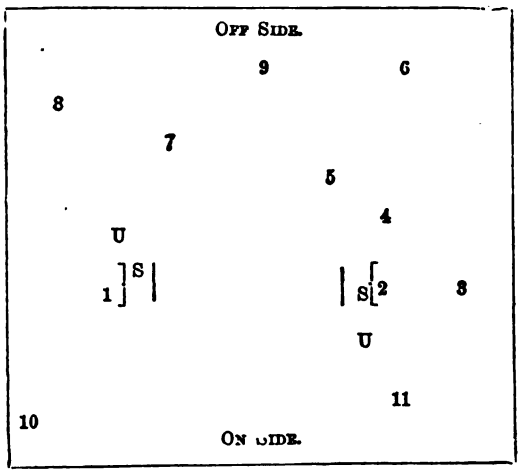


DIAGRAM OF FIELD FOR FAST BOWLING.

1 Fast Bowler	6 Long slip	11 Leg
2 Wicket keeper	7 Mid-wicket	
3 Long stop	8 Long-field off	UU Umpires
4 Short slip	9 Cover point	SS Strikers.
5 Point	10 Long-field on	

THE BOWLER, whose "over" is now going on according to the annexed diagram, being what is called a fast bowler, the field are arranged to suit his peculiar style, which is now almost always the round-hand delivery. The under-hand style may occasionally answer; but as the ball is delivered straight from the bowler to the wicket, and has very

little side bias or twist, it is much more easy to guard and hit than the round-hand delivery, or the slow twisting style, as practised by Clarke and his followers. For the sake of simplicity, we will first consider a single "over" of this round-hand style. The bowler should have made himself as perfect as possible in this kind of delivery, and should stick to it pertinaciously if he has fully made up his mind that it suits him, and that he can master its requisites. For this style he requires a full muscular development, knack, a good eye, and a power of enduring fatigue; for it is no slight task to deliver two or three hundred balls in a morning with all the force of which the arm is capable. Accuracy of aim is the great difficulty in this style, and few men, unless they are more than commonly gifted, and also constantly in practice, can arrive at anything like certainty in their balls. Even Wisden would miss nearly as many as he would take, and very few can come up to his proficiency in this particular. Constant daily practice, not too long continued at one time, is the only way to arrive at perfection; and without playing cricket this may be managed, even in wet weather, by bowling in an outhouse, against stumps fixed in front of any soft object like straw or hay. In this way every variety of ball may be attempted, and the hand and eye may acquire a very great degree of co-operative power. But many good men in this kind of practice are upset directly when engaged in the real game, either from over-excitement, or from a failure at first to do what they hoped, or from other causes acting upon an irritable organisation. Hence, a quiet and composed frame of mind is as necessary as a vigorous bodily organisation; and it is only when both are combined that a bowler is to be depended on. Numberless instructions and rules are given as to length of run, holding the ball, &c., but there is nothing like practice, and every man has a way of his own; though of course there are some broad rules—as, that the ball must be held in the fingers, and not grasped by the whole hand. The grand point to gain is a twisting course, after the ball touches the ground, which is highly deceptive to the eye of the striker. Indeed, to reverse the law of mechanics which tells us that "in objects propelled against a plane surface, the angle of reflection is equal to the angle of incidence," is the highest ambition of the bowler. Without this twist, the striker can calculate to a nicety where the ball is coming, and if his eye and hand are good, can play it accordingly; but with a deceptively rotating ball it appears to be running clear of the wicket, and yet turns round the bat and takes the outside stump. The bowler, in practising, requires lessons from a professional even more than for batting; for the one is now a much more acquired art than the other. Practice, with the aid of a little instruction, will show a quick striker how to play the balls of any bowler with whom he plays much; and though this will not perhaps enable him to play to Clarke or Wisden, yet he only wants their bowling to him to enable him to do so—that is to say, if he has "the gift," and a little perseverance. But it is not merely putting a good batsman at the wicket which will make a good bowler, though it may improve him; he requires actual demonstrations from a master of the art before he can acquire the command of the ball; and without this he would have to go through the same course which the earlier inventors of the various styles achieved for themselves, but which collectively now form the stock-in-trade of the regular professional. In this way the bowler, then, should learn his art; and should, while he keeps to one kind of delivery, endeavour to acquire as great a variety of distance, pace, twist, &c., as he possibly can, so as to puzzle his antagonist by giving him a different pitch and twist on each occasion. It is here that human bowling beats the catapult, which will deliver a ball with much greater accuracy and power than any arm can give it; but as in it the laws of mechanics are strictly fulfilled, the batsman soon learns to play its balls, and by practice before it, he will be able to set it at defiance. On the other hand, the scientific bowler, whether fast or slow, accommodates himself to his antagonist, looks for his weak points, and, where his armour is open, he finds room to insinuate his ball. Such are the leading principles of this art, for the filling up of which I must refer my readers to a regular bowler, either amateur or professional; or, if these are not to be had, to *The Cricket Field*, where the subject is treated at length. In playing matches, it is always desirable to increase the difficulty of the batsman by choosing two bowlers as unlike one another as possible, and thus not only to vary the balls in each "over," but also those given by the respective bowlers; and if they do not effect the object, to put on another, if there is a third good bowler in the eleven. The second bowler is usually made short slip, and if a third is likely to be wanted, he is kept to mid-wicket or cover point; but this will in

great measure depend upon his own choice and upon his peculiar capabilities and powers of fielding.

THE WICKET KEEPER'S OFFICE is no sinecure in fast bowling, and with such pace as Wisden or Mr. Fellowes give the ball it is really a service of great danger to an inexperienced hand. Tubular gloves and guards for both the abdomen and legs are absolutely required, and without them few men would go through a single match uninjured; indeed, without gloves the first ball would generally suffice. There is very little to be said as to the duties of wicket keeper, which are in fact *only* to stop the ball if he can, and be ready to stump the striker if he is off his ground; or, in running, to be ready to catch and stump before the striker grounds his bat. But though theoretically there is little difficulty, yet in practice there is the greatest possible; because the twist of the ball is as puzzling to him as to the striker, and when he expects it to come into his hands it often takes his chest or his face, or flies clean off him altogether. Practice and a quick eye are the requisites for this place, together with strong hard hands.

LONG STOP is only an assistant to wicket keeper, and he should be that player's double, with the power in addition of returning the ball to him with precision, yet without too much pace. He should be an exceedingly good and long thrower, but his especial quality is the power of stopping balls with certainty and returning them quickly.

THE REST OF THE FIELD have nearly the same duties—namely, first stopping or catching, and then rapidly returning the ball, to do which properly they must often cover a great deal of ground by running to balls falling at a distance from their several stations. Beyond these points the chief art lies in the position assigned to each by the captain of the eleven, who varies it according to the bowler and the striker. In the diagram given at page 564, the field is arranged for ordinary round-hand fast bowling, and "point" is placed about 12 or 15 yards from the striker, well supported by his "cover." "Short slip" is also well off the wicket, with "long slip" to cover him. Quick throwing is the next in importance as a qualification for all fieldsmen after stopping and catching, which they ought all to be thorough adepts in, with both hands, or with either, and at all distances. The attention must never flag for a moment, and the man who "stands at ease" in the cricket field is never to be relied on—that is to say, if he stands so after "play" is called. In all cases the fieldsman who stops a ball returns it either to the nearest wicket, or to the one which is least defended—that is to say, which is the farthest from the striker who is running to it; but, unless there is any good reason, the ball from a long distance is better returned to mid-wicket than to bowler, on account of the latter's duties requiring the more delicate use of his hands. Whenever wicket keeper advances to meet a ball, slip must take his place at the wicket, in order to be ready to stump by a quick return from wicket keeper. In balls which are hit far away, every man who stands to receive a throw ought to be backed up by the nearest player whose station is out of the line, in case the first should miss it; and this is of the utmost importance to good fielding, and is a part of cricket in which country clubs are lamentably deficient.

THE BATSMEN, or strikers, should stand in the attitude well depicted in Batting illustration No. 1; and in playing fast balls should rarely attempt to strike them, unless they are more or less wide of the wicket. A straight pitch must be stopped, not hit; and it is in this point that the scientific batsman differs from the bolder, but more rude player; the latter may *sometimes* succeed in making a few extraordinary hits, which may tell up a score of 12 or 20, but the former is the man who makes a good season average, and is seldom put out for 0. Let us now suppose the four balls of one "over" played; and first let us, before we go into the description of the playing of these balls, ascertain what are the varieties of balls. I have already said that the essence of a well-delivered ball is its uncertainty, *as measured by the striker's eye.* Hence, a good ball, and an apparently uncertain though really straight ball, are synonymous terms, while those balls which go wide of the wicket, *and at the same time are evidently so,* are the very bad balls. Again, balls are either "length balls" or the reverse, according as they are pitched, or not, at the distance which is most puzzling to the striker's eye. There are many subdivisions of these balls, but it answers no good purpose to attempt a description of them, especially as a few minutes with a practical man will do more than a dozen pages of description; and as a master is absolutely necessary in cricket, so it is throwing time away to attempt to teach it by theory. But, now then, supposing a fast ball of a bad length, is bowled a foot or two on the off-side, the object will be to hit it

hard and low between point and mid-wicket, just out of reach of the former, as in sketch No. 2 of Batting. Supposing this done by an advance of left leg, and a forward cut as there shown, it will be fielded by cover, who will throw up either to mid-wicket or point. These men will each retire or advance, according to the distance he has to throw, so as to be just at the full limit of his pitch. They, again, will at once pass the ball on to the bowler, or wicket keeper, and the striker will either be stumped or escape according to circumstances, it being presumed that one or two runs have been made. Next, suppose a good ball has been given to mid-stump, pitching at such an awkward distance from the popping crease as to be difficult to block, the striker must "play forward" at his full stretch, or nearly so, still, of course, keeping his foot within the crease, but blocking the ball at a proper distance from its taking the ground, and, before it has had time to twist *much*. On the other hand, the third ball may also be a good ball, but pitched further back: and here the difficulty is to avoid being put out by the ball passing *under* the bat, to guard against which the striker steps back, and so avoids his fate, unless he manages in escaping Scylla to fall into Charybdis, by knocking his own bail off. Lastly, in the "over," comes a ball slightly wide of leg-stump, and here the striker meets it with a hit to leg, striking directly across its line with great force, which he can venture upon, because it is not in his opinion straight for his wicket. This hit is well shown in sketch No. 8.

This ends the "over," and now a slow bowler, who has been short-slip, is put on, the fielders all change sides, and the captain arranges them as under:—

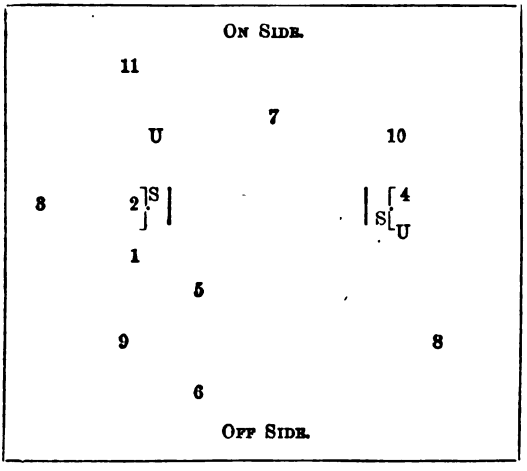


Diagram 2.—Slow Bowling. (*Second Over.*)

1 Short slip—(bowler in Diag. 1)	5 Point	10 Long-field on
2 Wicket keeper	6 Long slip	11 Leg
3 Long stop	7 Mid-wicket on	
4 Bowler (slip in Diag. 1)	8 Long-field off	UU Umpires
	9 Third man (cover point in Diag. 1)	SS Strikers.

The captain of the eleven has now changed his tactics, because he will have very little hard hitting; and he hopes to get near catches, from the tendency which good slow balls have to rise from the bat when only tipped. "Cover" being comparatively unnecessary, he is brought up as an intermediate slip, and made "third man," as the place is called, while point is advanced to a distance of only five or six yards from the wicket. With a sure hand at wicket keeper's place, long stop also may be put somewhere in front of the wicket, depending upon circumstances; but as a

missed ball is a dangerous matter, and is often good for two runs, it is a ticklish experiment, only justifiable under peculiar circumstances. "Mid-wicket" is either kept in his old place or he is crossed over to the "on side," where he will, with some bowlers and batters, be more useful than on the "off." When the men are properly stationed, the first ball is delivered; but the chances are that no hit is made either to this ball or to any other in the over. Slow bowling is much straighter for the wicket than fast bowling, or it is no bowling at all; but for straighter here, straighter round a corner (*Hibernice*) must be read. All cuts must be avoided, and the balls must be either carefully blocked, or they must be played with a perpendicular bat, so as to cover the wicket in the whole stroke, and to have no room for the ball to reach it except beneath it or round it. In spite of every rule (except the right one), these slow balls will find their way to the wicket at times, because they have so much spin and twist as to make a devious course to their goal. They must therefore be met as near the ground as possible before they have had their twist developed; but at the same time nothing but practice will give the proper mode of dealing with them. Sometimes here, as in fast bowling, there is a ball wide enough to justify a "cut" or a "drive;" and in such cases these or the "draw," as shown in the sketches Nos. 4, 5, and 6, may be successfully attempted.

Such are the most obvious directions for playing cricket; for the more intricate and abstruse questions, the reader is referred to *The Cricket Field*, already once alluded to, which has become the text-book for this scientific game.

The following axioms and definitions explain, as far as description will permit without demonstration, the various terms used in cricket:—

1.—The varieties of balls are—"lengths" and "not lengths;" the latter consisting of the following—viz., the toss, tice, long hop, half-volley, and ground ball.

2.—Balls are to be met with a full bat—that is, the face of the bat is at right angles to the ball, and generally parallel with the wicket.

3.—Straight balls are to be blocked, with the handle of the bat well advanced, to prevent the rise of the ball, and with the whole bat placed at such a point as will take the ball about a foot from the ground. This is effected by advancing or retreating the left foot.

4.—At all doubtful balls, hit straight from the middle of the wicket with a perpendicular bat, driving the ball, if possible, to one side, between bowler and long field. In doing this, the left elbow must be kept well up, and the bat swung gently back to middle stump, previously to hitting or driving.

5.—At balls a foot or more wide of the wicket, cuts may be made by which the wicket is exposed; but as from their badness it is safe from them, this is of no consequence. There are various modes of cutting; but the main difference is between the perpendicular cut to leg and the horizontal one to off side; and, besides, there are several intermediate ones, but the above comprise the chief varieties. In all the cuts but one, *the right leg* is stationary, but sometimes it is advanced, as shown in sketch 4.

6.—Attention is the watchword for the fielders, and they should be on the *qui vive* perpetually, not only looking out for catches, but being ready to back up one another. Laziness is the bane of the country club, whose members will not practise together; and when they do get together, are more inclined to smoke with their hands in their pockets than to do their duties. Any man will do his best when he has the bat in hand or is bowling, but few will attend to their duties as point, short slip, or mid-wicket; and numbers of balls are missed from pure idleness and inattention.

7.—The strikers, as well as the bowlers, wicket keeper, and captain, should arrange signs by which they can readily be understood; so that the former may be of one mind as to running, and that the latter may be able to communicate with the fielders without the striker understanding their signs.

The duties of the umpires are very onerous, and their eyes must be constantly occupied in detecting unfair play. Every ball requires watching in its delivery, and the umpire must call "no ball" at once, if it is improperly given. To save trouble in counting "overs," four small wooden balls may be strung on a piece of cord, and held in the hand, and each ball counted by slipping one clear of the fingers. This is less trouble than using bullets or marbles in the pocket. The wicket keeper's umpire should be behind and between the wicket and popping crease, so as to command both, and to see that the wicket keeper does not put down the ball while the foot of the striker is within the crease. This can only be seen well in the above position at 10 or 12 yards' distance.

Sect. 5.—Dress.

The Dress of the cricketer is almost universally a light flannel jacket, with trousers of the same, or of white duck. A straw hat or light cap is generally adopted, though many good players adhere to the ordinary hat, as protecting the head from balls better than a lighter covering. Leg-guards and body-guards are used in batting and wicket-keeping; and also gloves, which some use in all places in the field. Oxford shoes, or regular cricket shoes, with spiked soles, complete the arrangements.

Sect. 6.—The Expenses.

Cricket may be played at very little expense, the price of balls, bats, and stumps being all that is really required; or it may be made a rather extravagant game, depending upon the outlay in non-essentials incident to matches, &c. The ground is the chief needful outlay, and sometimes that can be obtained all the year round for nothing, as in the neighbourhood of common land. But here it cannot be preserved in tip-top order, and many irregularities will always exist. At Lord's and similar grounds the charge is generally from 1*l.* 1s. to 10s. 6d. per afternoon, according to the accommodation offered; and this, divided among 22 men, is not a very severe outlay. When, however, dinners are constantly being made up, and the expenses of going from home to matches are considered, it will be found that cricket, innocent as it is, may be made a source of considerable expense to a young man of limited income. To such, therefore, I would say, look well before you incur anything more than the club subscription, and you will thus often thereby avoid the payment of a bill five or six times as great as you had previously expected. Tents cost from 12*l.* up to 80*l.*

CHAPTER II.

MINOR GAMES WITH BALL.

Sect. 1.—Foot-Ball.

The Ball itself is the only thing required by this game, except a large field to play in. The ball is composed of a leather case, about 8 or 9 inches in diameter, made up of sections of stout calf leather sewn together, as shown in the ball in the accompanying woodcut. At one of the points where these sections meet a single piece is left longer than the others, two of which are pierced with holes, and laced over this long piece with an ordinary leather boot-lace; a large bladder is then introduced into the ball, and afterwards blown up till it nearly fills the case, leaving a small part outside, which, being tied securely, is pushed into the case, and completely fills it up; the case is then

securely laced, and the ball is fit for use. The bladder should always be taken out after play, and hung up to dry distended in the usual way.

In Playing the Game bounds are fixed 50 or 60 yards apart, or sometimes 100, when the numbers are large and the field will allow of it. These bounds are imaginary lines drawn between two sticks fixed in the ground, at the whole breadth of the field, if an ordinary one, and consequently the game is played in a square space, with a stick at each corner, two sides of which are the bounds, and are prolonged *ad infinitum*. Two captains are selected, who toss for first choice of men, and the whole number of players is divided into two parties by each captain choosing one in his turn. The toss also decides the first kick of the ball. The captain having gained this, takes the ball, followed by his train, and marches with them to the middle of the space between the bounds, where the opposite party are mustered in line ready for the struggle; the ball is then placed on the ground, and the captain gives the first kick towards the opposite bounds; the other party meeting it, and returning it either by a kick, or carrying it, if preferred, while ten are being counted by the other party; but in any case, whether the ball is carried or being kicked at, the opposite party are privileged to throw down the ball-carrier or kicker by any means in their power; and the usual practice is to run rapidly behind, and endeavour to get the foot inside his leg with a circular sweep, which almost always succeeds, unless it is met by a jump into the air of a peculiar kind. The object of each party is to kick the ball over the other's bounds, and when this is effected the game is won. It might be supposed that severe injuries would follow this rough practice, but it seldom is the case; and though the shins suffer severely at the time, they rarely exhibit any dangerous wounds. It is a game much in vogue in some rural districts, but it is chiefly played at Rugby, and the other public schools. Cold weather, without frost, is the time for its adoption. The rules of the various schools vary so much that it is useless to insert any.

Sect. 2.—Bowls.

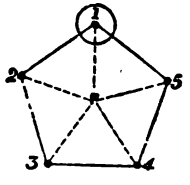
Bowls is almost as simple a game as football, requiring only a bowling-green and an indefinite number of bowls, one for each player. Unlike the latter game, however, it is a very quiet one, and calculated rather for the steady old gentleman than for his rackety son. The bowls are spheres of lignum vitæ, or any other hard and heavy wood; and as they are generally made of the side of the tree, the heart being heavier than the outside, causes one side of the ball to be heavier than the other; the consequence is that each ball has a bias of its own, and every player must learn its peculiarities before he can play it successfully. The bowling-green is, or should be, a perfectly level piece of turf, square in shape, or nearly so, and 30, 40, or 50 yards wide, according to the capabilities of the ground. This should be kept smooth, and closely shaven, by means of the scythe and the roller; and from its possessing these qualities in perfection the expression has arisen, "as smooth as a bowling-green."

The Game is very simple in theory, and consists only in each player endeavouring to bowl his own so as to remain as near as possible to a particular bowl. The bias creates the difficulty, which is greater than might be imagined; and 30 or 40 elderly gentlemen will often amuse themselves in this way every evening throughout the summer, without arriving at anything like an absolute control of their erratic instruments.

Sect. 3.—Rounders.

Rounders, besides an ordinary field, requires only a ball and a stick resembling a common rolling-pin, but not quite so heavy, and of the same size all the way down. The ball is the common one used in the games played with ball, except cricket and foot-ball; and it is composed of a centre of cork or India-rubber covered over with worsted, wound tightly in all directions so as to make a sphere, and finally covered with stout white sheep's skin stitched in large sections.

The Game is played by first fixing five spots, called "bases," at equal distances of 15 to 20 yards, forming a pentagon, and marked by a stone or hole. (See diagram.)



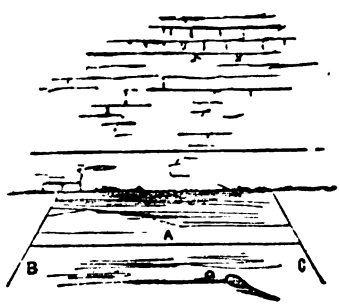
Rounders.

In the centre of this is another place (F), called "the seat," where "the feeder" stands to give or toss the ball to the one who has

the bat, and who stands at 1 in diagram. Two sides are chosen, as in foot-ball, one of which goes "in," while the other is "out," this being decided by tossing up the ball and scrambling for it, or by "heads or tails," or any other fair mode. There should not be less than 10 or 12 players in all, and 24 or 30 are not too many. The "in" side begin by standing at *fig.* 1 in diagram, called "the house;" one of them taking the bat, while the feeder, who is one of the "out" party, standing at his "seat," tosses (not throws) a ball at his knees, or thereabouts, after calling "play." The rest of the "out" party are distributed over the field round the outside of the pentagon. When the ball is thus given, the batsman's object is to hit it far and low over the field; and he is put out at once—first, if he fails to strike it; secondly, if he tips it and it falls behind him; thirdly, if it is caught before it falls to the ground, or after a *single* hop or rebound; or, fourthly, if he is struck on the body after leaving his base, and while not standing at another base. The "in" player may refuse to strike for three balls consecutively; but if he attempts and fails, or if he does not strike at the fourth ball, he is out. The SCORE is made by the "in" party as follows:—Each player, after striking the ball, runs from his base to another, or to a second, third, fourth, or even all round, according to the distance he has hit the ball, and scores one for each base he touches; and if while running between the bases he is hit by the ball, he is put out. If the ball falls among nettles or other cover of the same kind, "lost ball" may be cried by the "out" party, and four only can be scored. After one of the "in" party has hit the ball and dropped the bat, another takes his place; and, on receiving the ball as before, he strikes it, or fails, as the case may be. If the latter, he is put out; but the previous striker or strikers, if they are standing at their bases, are not affected by his failure. If the former, he drops the bat like his predecessor, and runs round the pentagon also like him, being preceded by the previous strikers; and all being liable to be put out by a blow from the ball. The feeder is allowed to feign a toss of the ball, in the hope of touching some one of the players, who are very apt to leave their bases before the hit, in the hope of scoring an extra one by the manœuvre. When only one of the side is left in, the others being all put out, he may call for "three fair hits for the rounder," which are intended to give him and his side another innings if he can effect the following feat:—The "outs," with the feeder, stand as usual, the rest of the striker's side besides himself taking no part. The feeder then tosses the ball as usual, which the striker may refuse as often as he pleases; but if he strikes at it he must endeavour to run completely round the pentagon once out of three times, he being allowed three attempts to do it in. If he is struck on the body, or caught, or if he fails in getting round, he and his party are finally out, and the other side go in; but if he succeeds in getting round, his side go in again for another innings, but have not afterwards another such chance of redeeming their play. The "out" field are disposed on the same principles as at cricket, part for slight tips, and the remainder for long balls, and catch, stop, or return them just as in that game. It was formerly a very favourite game in some of our English counties, but is now almost displaced by cricket.

SECT. 4.—FIVES.

THE GAME OF FIVES requires a ball of the ordinary make, described under the last section; a smooth wall from 20 to 30 feet in height; and a tolerably level gravelled surface in front of it. A horizontal chalked line is drawn on the wall three feet from the ground, another is also chalked on the ground 10 feet from the wall, and parallel with its base (as at A in diagram); two lines (B and C) are then chalked at right angles to the line A, and these are the bounds of the game.



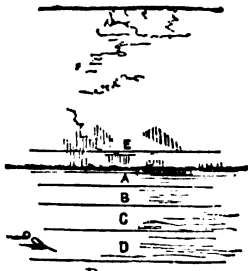
FIVES.

THE GAME is played by two, four, or six players; half of whom are opposed to the other half, and toss for the first ball. In commencing play, the ball is thrown to the ground with sufficient force to rise to the level of the hand of the first player, and is then struck by him with his open

hand against the wall above the line chalked upon it, and with force enough to make it fall outside of line A; on the rebound it falls to the lot of the other side, and it may either be struck back again before it touches the ground or before the second hop. If he or they fail to strike it back again above the line, and so that it rebounds as before beyond A, they are out, and the opposite party scores one; the game being 12 or 24.

Sect. 5.—Rackets.

Rackets is a game somewhat like fives; it requires a regular racket-ground, with a high wall at the end, and a ball and racket-bat for each player. The ground should be a smooth gravelled or paved yard, 50 or 60 yards long, and half that width. The Wall should be at least 40 feet high, and a light railing or netting at the top of that will not be thrown away; it is generally washed black, or some dark colour, and a white line is chalked upon it 42 inches from the ground. The Ground itself has four lines chalked upon it parallel with the wall, dividing off four spaces (A, B, C, D in diagram). The Ball must only weigh one ounce, and is similar to that which has been already described in section 2. The Racket-Bat (see *fig.*) is composed of a long handle ending in an oval frame, which is crossed by silk-wire or catgut; and also, is of a regulation-pattern and size.



Rackets.

Racket-Bat.

The Game is played very much in the same way as fives; but the difference is, that the one side takes the two inner compartments (A B), and the other the outer ones (C D). The former are said to be playing "in-hand;" the latter, "out-hand." If two only play, each takes two divisions, one taking A and C, and the other B and D. The player, or side, who begins, strikes the ball against the wall above the line E in the diagram, and if it rebounds beyond D he scores one; if it falls into either of the divisions A, B, C, or D, the player who has charge of that particular space must return it on the first rebound, or he is out, and so on till the ball is missed; if the ball is not returned above the line on the wall, or if it goes over the wall, the striker is out. The game usually consists of 11 or 15 points. It is chiefly played at regular racket-courts in connexion with public-houses in large towns, where it forms a good and healthy kind of exercise.

Sect. 6.—Tennis.

Tennis, like rackets, requires a regular court, a ball, and bats. The Court is much more complicated than the racket-ground, and is, or should be, 95 feet by 35 feet; and it is usually covered in. A low net divides this court into two equal spaces, nearly square; at each end of the court is a gallery, called the dedans, and on the sides also is another gallery, divided into spaces, called the first, second, and third gallery doors; and also six other numbered cells, a yard wide, called chaces; over the galleries is a sloping roof, called the pent-house. There is also a "hazard" and a "service"

side, a "tambour" or projection on the wall, and a "grill." The BALL and RACKET-BAT are like those for rackets.

TENNIS IS PLAYED by two parties, whose object is respectively to put the ball into some one of the above cells, which are very complicated, and can only be understood by examining a tennis-court itself. The games are played in sets of six. The ball is thrown upon the pent-house in the middle, and as it rebounds it is driven to any of the cells which the player may choose, and according to the result is the score, which varies with each cell. Altogether it is a most complicated game, and requires great practice to master its peculiarities, to say nothing of the score, which is very singular. Several balls are used one after another, the pocketed ones being allowed to remain. As the player cannot play without a regular racket-court, and he can always there learn the game by demonstration, it is useless to attempt here more than a general idea of the game. It is not much played, except in London and some few of the large cities of the kingdom.

SECT. 7.—GAME OF GOLF.

THE ground over which GOLF is played is in Scotland called "links," and is usually a sandy soil in the neighbourhood of the seashore, its surface covered with short grass, here and there interrupted by breaks, pits, and inequalities, and a mile or more in extent. These interruptions are necessary to impart interest to the game, for where the ground is completely smooth, the sport becomes insipid, there being then little opportunity of exhibiting dexterity of play. The track along which the players proceed is denominated "the course," and may be either rectilinear, or a figure of any number of sides. Holes are made in the ground of about four inches diameter, and at the distance of 400 yards or a quarter of a mile from each other, and the object of the game is to strike a ball from one of these holes into the next with as few strokes as possible. A game may be said to terminate at a fixed number of these holes, which varies according to the nature and extent of the ground. Balls are used about five quarters of an inch in diameter, and weighing from 26 to 30 drachms avoirdupois. They used to be made of strong alumed leather, and stuffed with feathers; but within the last few years balls made of gutta percha have completely superseded those of leather, as being better calculated for driving, and much more economical. The balls, when sufficiently dry, are painted with white oil-paint, to exclude the water, and render them easily seen. In playing, they are struck with a bat or club about four feet in length, having a small, tapering, elastic shaft, with a crooked head, into which is run a quantity of lead, to render it heavy, and it is fortified by a piece of horn in front. A good player, with one of these clubs, will strike a ball to the distance of 180 or 200 yards. Every golfer has a variety of clubs differently formed, and adapted for playing in different situations of the ball, and in different stages of the game. A set consists of four, at least, viz.:—the common, or play, club, the spoon, the putter, and the iron; but most golfers have ten or a dozen different sorts. The common club is used when the ball lies fair on the ground, the spoon when in a hollow, the iron when among sand or gravel, and the putter when near the hole.

A match may consist of two or more players, seldom exceeding four. Each side has a ball, and the rule is, that at the beginning of a hole or game, the player may elevate his ball to what height he chooses for the convenience of striking, and this is done by means of a little sand or earth, and is called *teeing*; but after the first stroke has been made, the ball must be played from the spot where it chances to lie; and whichsoever of the balls lies farthest back, or at the greatest distance from the hole to which the party are proceeding, must be always played till it get before the other. For ease to the memory in counting, those strokes only are regarded by which the one party in playing has exceeded the other. Thus, suppose A and B to be engaged in a match. A plays off, and then B. A's ball lies far theat behind, and therefore, by the rules of the game, he is obliged to play again. This is called playing *one more*, or *the odds*. But A misses his ball, or sends it only to so short a distance that it is not yet so near the mark as B's. A must therefore play a third time, and this is called playing two more; and should it so happen that even at this stroke he does not get his ball laid nearer to the hole than that of B, he must then play three more, and so on. When B then plays, he is said to play *one off three*; and if he plays a second time, in order to get before it, he is said to play one off two; and if a third time, one off one, or *the like*. Then, whichsoever of the two plays first again, plays the odds. But if, when B played one off two, or one off three, A had been to play next, he would have then played two more, or three more respectively. If the party consist of four, the rule is the same, except that the two partners on each

side play alternately. If the ball be struck into the hole at the *like*, or an equal number of strokes on both sides, the hole is said to be halved, and goes for nothing.

The links of St. Andrews are undoubtedly the most esteemed for this game, and many important matches for high stakes are played for there, throughout the year, by the best players in the kingdom; and a gold medal, presented by King William IV., is competed for in autumn. The game is also vigorously pursued in Edinburgh, Perth, Montrose, Aberdeen, Blackheath, and other places.

Sect. 8.—Croquet.

The following are the rules drawn up by a committee of players appointed by myself as editor of the *Field*.

Its Implements and Laws.—The game of Croquet can be played with any number of balls not exceeding eight; but, in the opinion of this committee, the best number for general purposes is four, which may be played by two, three, or four players, and for matches six balls played by three players on each side. It requires for its full development a level ground of well-mown and well-rolled grass (unless all are equally acquainted with the inequalities, when slight undulations may add to the interest of the game); but it *can* be played on the sand of the sea-shore where it is hard and level, or upon well-rolled gravel, or asphalt covered with a thin layer of fine broken shells, as used in Kensington Gardens and elsewhere for walks. In addition, certain *implements* are required; and, if a match of any importance is to be played, an umpire—whose decision is final—should be chosen by the captains.

The Ground should not be less than 30 yards, nor for general play more than 100 yards long, and from 20 to 60 yards wide, the best proportion of length to breadth being about 5 to 3. Its boundaries should be defined as accurately as may be before play begins.

The Implements consist of balls, hoops, sticks, and mallets, to which are sometimes added a cage, or a pair of tunnels, or both.

The Balls may be made of beech, but are better of box (thoroughly well seasoned, or they soon lose their truth of shape). In diameter they vary from 3 to 4 inches, the usual average for all ages being 3½ inches. Each ball should be distinguished in one of three ways: first, by being painted entirely of one of the set of eight colours used in this game; secondly, with only a ring of that colour, the remainder being varnished; or, thirdly, one-half the set should be of a dark colour, and the other light, each ball being marked with one, two, three, or four rings upon the light or dark ground, or with the corresponding numerals on each face. The object of these colours and rings is to distinguish each ball and its order of play. The balls should be turned true spheres, and should be kept dry when not in use. By occasionally dressing them with linseed oil the absorption of water is in great measure prevented, and they keep their shape better.

The Hoops (or wires as they are also called) are regulated in width by the size of the balls, the usual proportion being about two and a half times the diameter of the latter. They may be made either with circular or flat tops, the latter shape being more convenient for driving them into hard ground. Each leg should be sharpened, and should be about fifteen inches long, measured from the crown of the arch. The hoops should be either of galvanized iron or painted white, that colour being more visible in a bad light than any other; and eight of them should be marked with a ring on each leg, varying in colour to correspond with the balls. The number of hoops depends upon the setting out of the ground, varying from eight to ten, two of the latter number being left entirely white.

The Sticks are two or three in number. They should be pointed at one end to allow of being easily driven into the ground, and rounded at the other to suit the palm of the hand. Above the level of the ground, when in their places, they should be from one inch to one and a half inches in diameter, according to the size of the ground. The colours used on the balls should all be painted on the sticks in the following order, commencing on the top—viz., blue, pink, black, yellow, brown, orange, green, and red.

The Mallets should be made with ash shafts, and ash or box heads (the latter wood being much the best), connected together as in the common carpenter's tool of the same name. The heads are made of various shapes to suit the fancies of players, the following being those chiefly used:—1st, the most common form; 2nd, the barrel head; 3rd, the plano-convex; and, 4th, the cue-shaped head, in which the two ends are on the principle of the billiard cue, one being, like it, tipped with leather. In length the head should be from 4½ to 5 inches, and the greatest diameter should not exceed 2½ inches, as it is important that in making the stroke the centre of the

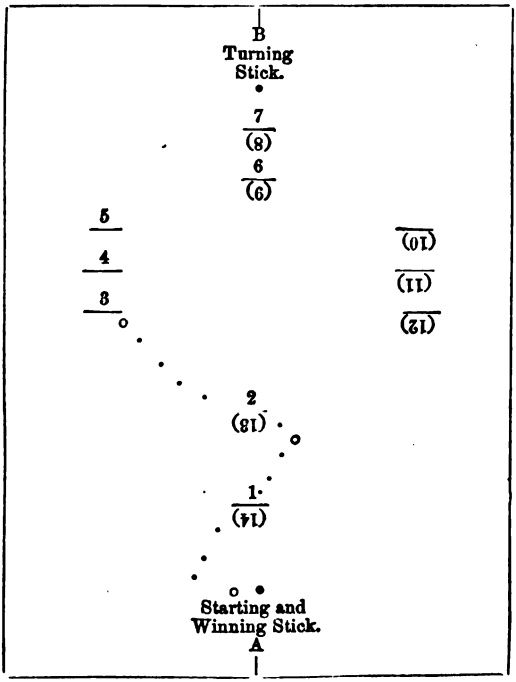
mallet should correspond with the centre of the ball; and to effect this, under all circumstances the head of the mallet must be less in diameter than the ball. In the cue-shaped mallet (No. 4) it is necessary to bore out the smaller end (as shown by the dotted lines in the diagram), and fill the hole with lead, in order to balance the larger end without increasing the length of the whole head. The shaft should be skilfully tapered from its greatest diameter at the handle to the lower end, where it should be about ⅜ of an inch, which will allow of enough spring to give a good stroke. The end for the hand should be one inch in diameter, and made safe from slipping by several rings being cut round it. The whole length of the mallet should not be less than 2 feet 9 inches (except for children), nor more than 3 feet. A ring of paint, varying in colour according to the series on the sticks, should be painted eighteen inches from the head, below which the hand should not be placed, except by players under five feet in height, who may be allowed to place the hand at fifteen inches.

A CAGE is composed of the extra pair of white hoops stuck in the ground crosswise. It is run by the ball passing through it in any direction. Sometimes, as in the Eglington game, a bell is suspended from the arch, and the *cage* is not then run unless the bell is audibly rung.

TUNNELS are very similar to hoops, but smaller, and with flat sides. They must be run in one way only.

The arrangement of the hoops, &c., is made in various ways, according to the fancy of the player. These we shall describe as follows:

PLAN I.—THE ORIGINAL CROQUET GAME.



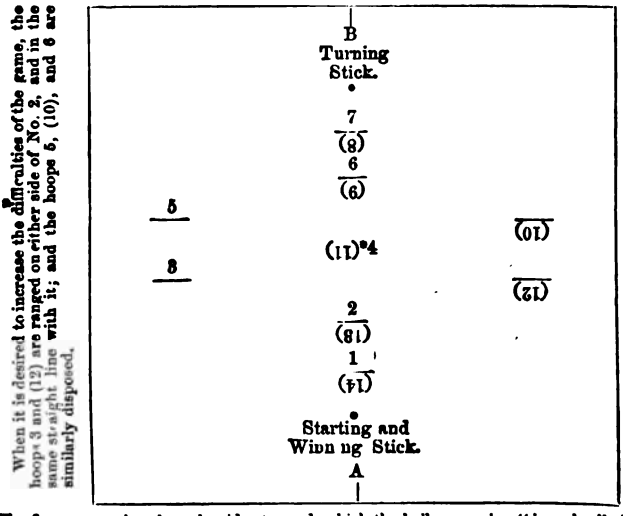
The figures are placed on the side towards which the hoops are run "in order." Those in brackets (10) indicate the order of running the hoops in returning from the stick. The dotted lines show what can be done in one break.

To set out this arrangement of hoops, find the middle of the two opposite shorter sides of the ground (A B), and divide the line between these two lines into five equal parts, fixing the hoop No. 1 at a distance from A equal to one of those parts, and No. 7 at the same distance from B. Cut a piece of string of the length of one of these fifths, and it will serve to fix every hoop and stick as follows, viz.: Half way between A and No. 1 hoop place the starting-stick, and at a similar distance from No. 7 hoop and B fix the turning-stick. Then half the string from No. 1 hoop place No. 2, and half the string from No 7 put No. 6. This completes the positions of all but the side hoops, the lines for which should be parallel with the centre line, and one string from it on each side. The hoops 4 and (11) should be opposite the central point, and 3, 4, (10), and (12), half a string from them. These hoops should be so placed that No. 1 on the plan annexed has rings of the blue colour; No. 2, the pink; No. 3, black; No. 4, white; No. 5, yellow; No. 6, brown; No. 7, orange; No. (10), green; No. (11), white; and No. (12), red. It will be observed that the numbers in brackets indicate that the hoop is to be run in the direction from the turning to the winning stick. Thus the order of play is—

No. 1, blue;
No. 2, pink;
No. 3, black;
No. 4, white;
No. 5, yellow;
No. 6, brown;
No. 7, orange:
The Turning Stick;
No. (8), orange (reverse way);
No. (9), brown (ditto);
No. (10), green;
No. (11), white;
No. (12), red;
No. (13), pink (a second time);
No. (14), blue (ditto);
After which comes the Winning Stick.

This arrangement of the ground is still frequently used, but we prefer the following modification, which, in our opinion, has only the disadvantage that it prolongs the game, and that for very young players it is more difficult, and, therefore, when all are nearly equally inexperienced, it is as well to begin with Plan No. I.

PLAN II.—THE IMPROVED ARRANGEMENT.


When it is desired to increase the difficulties of the game, the hoops 3 and (12) are ranged on either side of No. 2, and in the same straight line with it; and the hoops 5, (10), and 6 are similarly disposed.
B
Turning Stick.
7
(8)
6
(6)
5
3
(11)*4
(10)
(12)
2
(9)
1
(14)
Starting and Winning Stick.
A
From 80 to 100 yards long, the distance between the hoops varying from 8 to 10 yards.

The figures are placed on the sides towards which the balls are going "in order." Those between brackets (10) indicate the order of running the hoops in returning from the stick.

* At this point either a hoop, cage, or stick may be fixed.

In order to set out this plan, divide the ground as above described, and use the same string for placing all the hoops except 4 and (11), which are not fixed. Instead of them, place in the centre of the ground on the middle line at *, either a hoop, stick, or cage, which is taken "in order" after hoop No. 3, and again in returning after hoop (10). In fixing the hoops the colours are to be placed as in the previous plan, except that the white hoops are transferred to the centre to form the cage, if it is adopted. The order of play is therefore as follows: Starting stick to—

No. 1, Hoop;
No. 2, Ditto;
No. 3, Ditto;
No. 4, Hoop, stick, or cage (run in any direction);
No. 5, Hoop;
No. 6, Ditto;
No. 7, Ditto;
The Turning Stick;
No. (8), Hoop (reverse way);
No. (9), Ditto;
No. (10), Ditto;
No. (11), Hoop, stick, or cage (run in any direction);
No. (12), Hoop;
No. (13), Ditto;
No. (14), Ditto;

After which the game is finished by striking the Winning Stick.

It will be observed that four sets of three hoops each are here run together, with intervals of a hoop, stick, or cage at the centre of the ground, and a stick at either end.

Plan III.—Third Arrangement of the Hoops, &c.

Sometimes, instead of running the hoops as placed in Plan No. II., the order is to run two hoops (Nos. 1 and 2), and then go to the central point (hoop, stick, or cage, as preferred), after which the two left-hand side hoops are run, then the central point again, next the two hoops to the turning stick, after touching which the ball comes back to the cage and takes the two right-hand side hoops; after these comes the cage again, and finally the two hoops between it and the winning stick. The principle of this arrangement is similar to that of Plan II., but it makes the game too long when there are more than four balls in play, and for general purposes is not equal to it.

Plan IV.—The Eglington Game.

In this arrangement the same order of play is adopted as in Plan No. III., but in the cage a bell is hung, which must be rung in going through it; a tunnel is also placed between the two hoops on each side, which are separated much farther than in Plan II., and are placed back nearly at the four corners of the ground.

Definition of Terms.

In Order.—The term "in order" signifies the sequence of hoops, sticks, cage, &c., as described in the various plans above. The arrangement must be decided on before the game begins. Whichever plan is adopted, the game is won by the player, or side of players, which first drives all the balls of its side in the right direction and "in order," as arranged, up to the turning-stick and back again till they all touch the winning stick.

In Play, in Hand, Dead.—A ball is "in play" as soon as it has run the first hoop; it continues in play till it makes a roquet, when it is "in hand." A ball in hand must take croquet, and can score no point until it has done so. Having taken croquet, it is again in play; but it is not permitted to roquet again the ball or balls it has croqueted for the remainder of its turn, unless it makes another point. Having made another point, it is in play again to all the balls, as at the commencement of its turn. A ball is "dead" when it has run all its hoops "in order," and has hit the winning stick.

A ball is Wired when it cannot effect the stroke desired on account of the leg of a hoop (wire) intervening.

Rover.—A ball becomes "a rover" when it has "in order" passed the last hoop before the winning stick.

The Points of the game are (*a*) running a hoop; or (*b*) a cage; or (*c*) hitting a stick, each "in order."

(*a*) A hoop is run when, a ball "in play" having passed through it in the right direction, in one or more strokes, and with or without hitting the hoop, a straight-edge applied behind the hoop does not touch the ball. (See Law 5.) Hoops accidentally displaced from the perpendicular may be set upright at any time.

(*b*) In testing the running of the cage, which may be run in any direction, the straight-edge (*ex gr.*, the handle of the mallet) is applied on the inner side of the two legs nearest the ball.

(*c*) A stick is proved to be hit when seen to move, or an audible noise is produced, by the blow from the ball. The stick may be put upright at any time if accidentally displaced.

A player is not obliged to play for a point or roquet. He may, if he prefer it, place his ball where he likes, by a stroke of the mallet.

A ROQUET is made when a player with his own ball hits another, however slightly, both being "in play." It gives the privilege of a croquet from the hit ball.

The roquet can only be taken advantage of once in each turn from the same ball, unless another point is made. It follows that a second roquet, in one turn, without a point made in the interval, does not count, but it may be made for any purpose such as cannoning, driving away, &c., the player's turn ending there, unless by the same stroke he makes a point, or roquets another ball, which he has not roqueted before during the turn,and since making a point.

A CROQUET is taken by placing the ball of the player in contact with the one roqueted; the player then strikes his own ball with the mallet, after which he is entitled to another stroke. A croquet may be either (*a*) tight, (*b*) loose, or (*c*) rolling.

(*a*) A tight croquet is made by placing the ball of the player close to that roqueted; then, fixing his own ball with his foot, he strikes it, driving the other ball away, but keeping his own under his foot. If the ball slips from under the foot, the stroke following the croquet is forfeited.

(*b*) A loose croquet is made by placing the player's ball close to that roqueted, and striking the former without the foot on it. This stroke may be made either in a line passing through the centres of both balls, in which plan the player's ball remains almost stationary, while the other flies forward; or so as to place the two in such opposite positions as may be desired, and hence called a "splitting croquet." Where it is wished to make a loose croquet with as little disturbance as possible of the roqueted ball, it is often called taking "two off" it; but in that case the latter must be made to move, however slightly, to the satisfaction of the two captains or their umpire.

(*c*) A rolling croquet is effected by placing the two balls in the same way as in the first kind of loose croquet (*b*), but after the initial stroke fairly made, the mallet follows the ball and causes the two to roll nearly together to the positions aimed at.

SPOONING is a pushing stroke, causing no noise as of a tap to be heard.

It is very difficult to define what separates the fair stroke from "the spoon." We believe the best way to avoid disputes on this score is to follow the instructions laid down in Law 6.

LAWS OF CROQUET.

1. The rotation of play is to be decided by lot, and the captain gaining the toss takes either the dark or light balls, at his option, his opponent having the others, and each allotting the colours as he pleases. Blue then leads off, followed in rotation by the other colours, till his turn comes round again.

2. The first stroke of each ball is made by placing it anywhere not exceeding one mallet's length from the starting stick, and striking it, or endeavouring to strike it, through the first hoop. If this point (see Definitions) is made, another stroke is allowed, but if it fails the ball is taken off the ground till its next turn comes round, when it starts again as at first.

3. After the first hoop is passed, the player of the ball running it can go on with his play, so long as he succeeds in either running a hoop or cage or hitting a stick, each "in order," and with his ball "in play," or makes a roquet on any ball "in play." Having made roquet he must take croquet before his next stroke.

When the turn comes round again it is optional for the player to "place" his ball, or to commence by playing either for a roquet or a point.

4. If a player roquets a rover against the winning stick, he cannot take croquet, as the other ball is dead, and he loses his next stroke.

5. A ball "in play," driven through its proper hoop or cage, or hitting a stick "in order," by any stroke, whether of the same side or that of its antagonist, counts that hoop, cage, or stick, even if it rolls back through the hoop or cage; but in the latter case the running must be established to the satisfaction of the two captains or their umpire.

(*a*) If a ball after roqueting another and before taking its croquet makes a point or a second roquet, it is not entitled to the point or second roquet, as it is then "in hand." If two balls are roqueted simultaneously, the player may take his choice for croquet.

(*b*) If a ball, while passing through a hoop, roquets another before the former is entirely through, the hoop does not count, and the croquet must be taken. This point constantly calls for the decision of an umpire.

(*c*) If a ball in being driven back through a hoop the reverse way to which it is going "in order," rests under it, it is not entitled to run that hoop, if a straight-edge applied in front of the hoop touches the ball.

6. All strokes must be given by the player standing opposite his ball, the course of the mallet being across the body, from right to left, or from left to right. Either one or both hands may be used, but the nearest to the head of the mallet must be eighteen inches at least from it, except when the player is under five feet in height, when the distance may be reduced to fifteen inches.

7. The side of the head of the mallet is not to be applied to the ball in striking it under any circumstances, and if so used the stroke is forfeited, and any balls moved are to be replaced to the satisfaction of the adverse captain. But either end of the head of the mallet may be used, whatever be the difference of shape between them.

8. If, when about to play, a player finds his ball touching another he may hit his own as hard or as soft as he likes, and then, being "in hand" to the other, he must take a croquet off it.

9. A rover (see Definitions) has the right of roqueting and croqueting any ball (whether partner or antagonist) once only during each turn, and of taking another stroke subsequently to each in succession; but having passed all the hoops it has no point allowed for running one. It is subject, on the other hand, to be roqueted or croqueted by any other ball "in play." If this causes it to strike the winning stick the rover is out of the game, and must be removed from the ground.

10. A ball struck beyond the limits of the ground must at once be replaced half a mallet's length within the edge, measured from the spot where it went off, at right angles to the margin.

11. Every player, on being appealed to, shall declare which is his next hoop "in order;" and, on the other hand, before playing, every player may demand from the captain of the opposite side which is his proper hoop "in order;" and should any dispute arise, it must be settled by the two captains or their umpire.

This is a game of skill, and does not depend upon memory. It is therefore far more agreeable to all parties that the trouble of remembering the score should be rendered as little burdensome as possible. Clips and indicators are sometimes used to denote the position of each ball, but in our opinion they are very troublesome, and do not answer so well as the above rule.

12. The penalties of the game are as follows:—

(*a*) If a player in making a tight croquet allows his ball to slip from under his foot, he loses his next stroke.

(*b*) If in taking "two off" a ball, he fails to move it, he loses his next stroke.

(*c*) If any ball when "in play" and rolling is stopped or touched either by the hand, foot, dress, or mallet, or by any other substance held by its player, or one of his own side, the player of that ball ceases to play for that turn. But if either of the above acts is done by one of the side opposed to that of the striker, he may at his option either take the stroke again, or the game may proceed with the ball, or balls, left where it or they were stopped.

(*d*) If, in striking at his own ball, the player, either before or after the blow is actually given, hits another ball with his mallet, he loses his present turn, and the ball improperly hit is replaced to the satisfaction of the adverse captain.

(*e*) If a ball, not being hit sufficiently hard, is hit a second time, the stroke is forfeited, the balls are to be replaced to the satisfaction of the adverse captain, and the player loses his turn.

(*f*) If a player play out of his turn "in rotation," whether with his own ball or with any other (see Law 1), and the mistake is discovered before the next player has commenced, all benefit from any point or points so made is lost, all balls hit are to be replaced, or left where they are struck, at the option of the adverse captain, and the person who should have played takes his turn. But if the mistake is discovered after the next player has played his first stroke, the turn played in error must be allowed to stand, and if played with the wrong ball, the player's ball and the one he played with are to be transposed.

(*g*) If a player in his proper turn plays with the wrong ball, he loses all benefit from that stroke; the ball or balls are replaced, and the turn is lost. Should the error not be discovered before he has made a second stroke, the strokes are valid and the player continues to play as if no mistake had been committed. At the end of the player's turn his own ball and the one he played with are to be transposed from one position to the other, and in their next turns the players play with their right balls, in the same rotation as if no mistake had occurred.

(*h*) If a player croquets a ball which he is not entitled to croquet (see Definition) he loses the remainder of his turn, and the ball or balls moved by such croquet are to be replaced to the satisfaction of the adverse captain. If the error is not discovered before the player has made his next stroke, the croquet is valid, and the player continues

the turn as though no error had been committed.

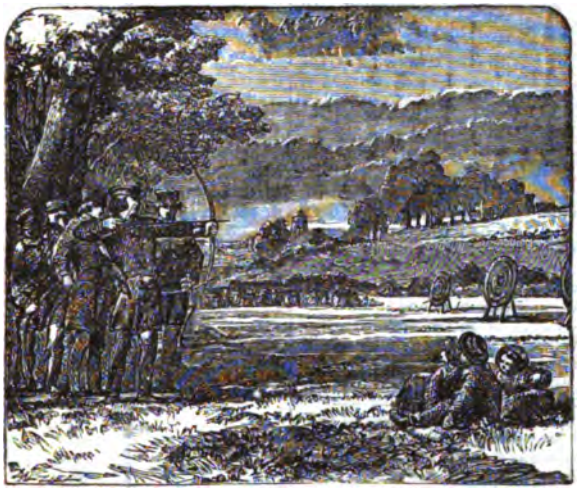
(*i*) If a ball is not fairly hit, but, in the opinion of the captains or their umpire, is pushed or "spooned," all benefit from that stroke is lost, the ball must be replaced to the satisfaction of the adverse captain, and the player loses his turn.

(*j*) If in taking aim the player moves his ball, it must be considered that he has taken his stroke.

In matches the strict rule should always be adhered to, but in private play it is often permitted to replace balls moved in taking aim.

PART III.

RURAL GAMES AND OUT-DOOR AMUSEMENTS.



BOOK II.—MISCELLANEOUS GAMES.

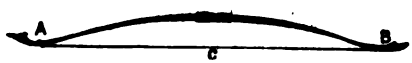
CHAP. I.
ARCHERY.

Sect. 1.—Implements of the Craft.

For the Purposes of the Archer the following implements are required, which may be obtained at any of the principal makers in Edinburgh or London—first, the bow; secondly, arrows; thirdly, a quiver, pouch, and belt; fourthly, a tassel and grease pot; fifthly, an arm-guard, or brace, and a shooting-glove; sixthly, a target or targets; and seventhly, a scoring card.

The Bow is the most important article in archery, and also the most expensive. (See *fig.* 1.) It is usually from five to six feet in length, made of a single piece of yew, or of lancewood and hickory glued together back to back. The former suits gentlemen the best, and the latter being more lively is better adapted for the short sharp pull of the ladies. The wood is gradually tapered, and at each end is a tip of horn, the one for the upper end (A) being longer than the other or lower one (B). The strength of bows is marked in pounds, varying from 25 to 80 lb. Ladies' bows are from 25 to 40 lb. in strength, and those of gentlemen from 50 to 80 lb. One side of the bow is flat, called its "back;" the other rounded, is called "the belly;" and nearly

Fig. 1.



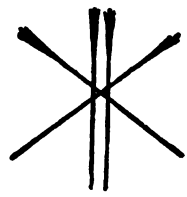
The Bow.

in the middle at D, where the hand should take hold, it is lapped round with velvet, and that part is called "the handle." In each of the tips of horn is a notch for the string, called "the nock."

BOWSTRINGS are made of hemp or flax, the former being the better material; for though at first they stretch more, yet they wear longer, and stand a harder pull as well as being more elastic in the shooting. In applying a fresh string to a bow, be careful in opening it not to break the composition that is on it; cut the tie, take hold of the eye, which will be found ready worked at one end, let the other part hang down, and pass the eye over the upper end of the bow. If for a lady, it may be held from 2 to 2½ inches below the nock; if for a gentleman, half an inch lower, varying it according to the length and strength of the bow; then run your hand along the side of the bow and string to the bottom nock, turn it round that and fix it by the noose, called the "timber noose," taking care not to untwist the string in making it. This noose is merely a simple turn back and twist without a knob, but it is better seen than described. When strung, a lady's bow will have the string about 5 or 5½ inches from the belly; and a gentleman's about half an inch more. The part opposite the handle, namely C, is bound round with waxed silk, in order to prevent its being frayed by the arrow. As soon as a string becomes too soft and the fibres too straight, rub it with beeswax, and give it a few turns in the proper direction, so as to shorten it and twist its strands a little tighter; a spare string should always be provided by the shooter.

THE ARROWS are differently shaped by the various makers; some being of uniform thickness throughout, while others are protuberant in the middle; some, again, are larger at the point than at the feathered end, which I believe to be the best form for shooting; and others are quite the reverse. They are now invariably made of white deal, with points of iron or brass riveted on, but generally having a piece of heavy wood spliced on to the deal between it and the point, by which their flight is improved. At the other end (see *fig.* 2) a piece of horn is inserted, in which is a notch for the string; and they are armed with three feathers glued on, one of which is of a different colour to the others, and is intended to mark the proper position of the arrow when placed on the string, this one always pointing from the bow. These feathers properly applied give a rotary motion to the arrow which causes its flight to be straight. They are generally from the wing of the turkey or goose. The length and weight vary; the latter being marked in sterling silver coin, stamped on the arrow in plain figures.

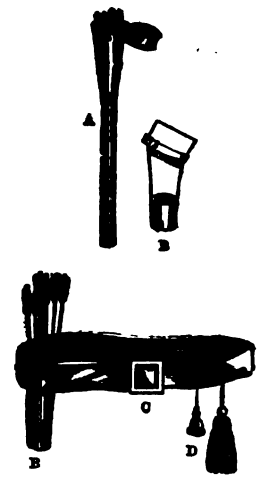
Fig. 2.



It is usual to paint a crest, or a distinguishing ring or rings, on the arrow just above the feathers, by which they may be known in shooting at the target.

THE QUIVER is merely a tin case painted green, and is intended for the security of the arrows when not in use (*fig.* 3, A). The POUCH and BELT (*fig.* 3, B C) are worn round

Fig. 3.



QUIVER, POUCH, AND BELT.

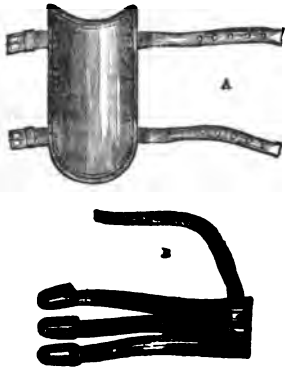
the waist, and the latter contains those arrows which are actually being shot.

A POT TO HOLD GREASE FOR TOUCHING THE GLOVE AND STRING, AND A TASSEL to wipe the arrows, are hung to the belt (see *fig.* 3, D B). The grease is composed of

deer-suet, or of beef-suet, and beeswax melted together. Instead of a leather-belt, ladies use a cord and tassels round the waist, to which the pouch, of a different shape to that adopted by gentlemen, is hooked; and this, again, has the grease-pot suspended to it. (See sketch of ladies' costume, section 10.)

THE ARM is protected from the blow of the string by the brace (see *fig.* 4, A), a

Fig. 4.



BRACE AND SHOOTING-GLOVE.

broad guard of strong leather buckled on by two straps. A SHOOTING-GLOVE, also of thin tubes of leather, is attached to the wrist by three flat pieces ending in a circular strap buckled round it. This glove prevents that soreness of the fingers which soon comes on after using the bow without it. (See *fig.* 4, B.)

THE TARGET consists of a circular thick mat of straw covered with canvas, painted in a series of circles. It is usually from three feet six inches to four feet in diameter; the middle is about six or eight inches in diameter, gilt, and called "the gold;" the next is called "the red," after which comes "the inner white," then "the black," and finally "the outer white." These targets are mounted upon triangular stands, at distances apart of from 50 to 100 yards; 60 being the usual shooting distance. (See *fig.* 5.)

Fig. 5.

THE TARGET.

A SCORING-CARD is provided with columns for each colour, and are marked with a pin, as here indicated. The usual score is—for a gold hit, 9; the red, 7; inner white, 5; black, 3; and outer white, 1.

SCORING-CARD.

Name.	Gold Scores. 9.	Red Scores. 7.	Inner White Scores. 5.	Black Scores. 3.	Outer White Scores. 1.	Total.	Value.
Mr. Jones - -	...	.....	.....	.....	.....	41	159
Mr. Brown - - -	.	.....	.....	.....	.....	87	117

SECT. 2.—THE USE OF THE BOW.

TO BEND AND STRING THE BOW properly, the following directions will be serviceable, and the young archer should pay particular attention to them, since a neglect of these cautions will often lead to a fracture of the bow, by bending it the wrong way:—

1.—Take the bow by the *handle* (*fig.* 1, D) in the *right* hand.

2.—Place the bottom end (B) upon the

ground, resting against the hollow of the inside of the right foot, keeping the flat side of the bow (called the *back*) towards your person; the left foot should be advanced a little, and the right placed so that the bow cannot slip sideways.

3.—Place the heel of the left hand upon the upper limb of the bow, below the eye of the string. Now, while the fingers and thumb of the left hand slide this eye towards the notch in the horn, and the heel *pushes* the limb away from the body, the right hand *pulls* the handle towards the person, and thus resists the action of the left, by which the bow is bent, and at the same time the string is slipped into the "nock," as the notch is termed.

4.—Take care to keep the three outer fingers free from the string, for if the bow should slip from the hand, and the string catch them, they will be severely pinched. If shooting in frosty weather, warm the bow before the fire, or by friction with a woollen cloth. If the bow has been lying by for a long time, it should be well rubbed with boiled linseed oil before using it.

To Unstring the Bow, hold it as in stringing; then press down the upper limb exactly as before, and as if you wished to place the eye of the string in a higher notch; this will loosen the string and liberate the eye, when it must be lifted out of the nock by the forefinger, and suffered to slip down the limb.

Before Using the Bow, hold it in a perpendicular direction, with the string towards you, and see if the line of the string cuts the middle of the bow; if not, shift the eye and noose, of the string to either side, so as to make the two lines coincide. This precaution prevents a very common cause of defective shooting, which is the result of an uneven string throwing the arrow on one side. After using it, unstring it; and if a large party is shooting, after every end it should be liberated from its state of tension; but in this respect there is a great difference in different bows, some good ones soon getting cast from their true shape, and others, though inferior bows, bearing any ordinary amount of tension without damage.

The General Management of the Bow should be on the principle that damp injures it, and that any loose floating ends interfere with its shooting. It should, therefore, be kept well varnished, and in a waterproof case, and it should be carefully dried after shooting in damp weather. If there are any ends hanging from the string cut them off pretty close, and see that the whipping in the middle of the string is close and well fitting. The case should be hung up against a dry internal wall, not too near a fire.

In Selecting the Bow, be careful that it is not too strong for your power, and that you can draw the arrow to its head without any trembling of the hand. If this cannot be done after a little practice, the bow should be changed for a weaker one, for no arrow will go true if it is discharged by a trembling hand.

In Selecting Arrows, be careful that they are not too long. For a bow of 5 feet 10 inches, the arrows should be about 2 feet 4 inches in length. For a lady's bow of 4 feet 10 inches, the arrow should measure about 2 feet.

In Shooting keep the longer limb of the bow upwards, as the bow is liable to be broken if used the other way, and the wrapping of the string does not coincide with the upper part of the handle. Bows may be broken either from the above circumstance, or by overdrawing them, or by snapping the string without an arrow in it, or by the string breaking; and if a bow stands all these trials, it is to be prized as a sound and good bit of stuff.

After an arrow has been shot into the target or the ground, be particularly careful to withdraw it, by laying hold close to its head, and by twisting it round as it is withdrawn in the direction of its axis. Without this precaution it may be easily bent or broken.

In Shooting at the Target, the first thing to be done is to nock the arrow—that is, to place it properly on the string. In order to effect this, take the bow in the left hand, with the string towards you, the upper limb being towards the right. Hold it horizontally while you take the arrow by the middle, pass it on the *under* side of the string and the *upper* side of the bow, till the head reaches two or three inches past the left hand; hold it there with the fore-finger or thumb while you remove the right hand down to the nock. Turn the arrow till the cock-feather comes uppermost; then pass it down the bow, and fix it on the nocking point of the string. In doing this, all contact with the feathers should be avoided, unless they are rubbed out of place, when they may be smoothed down by passing them through the hand from the point towards the neck.

The Attitude for shooting should be graceful as well as serviceable. The body should be at right angles with the target, but the face must be turned over the left

shoulder, so as to be opposed to it. The feet are to be flat on the ground, with the heels a little apart, the left foot turned towards the mark; the head and chest inclined a *little* forward, so as to present a full bust, but not bent at all below the waist.

In Drawing the Bow, proceed as follows:—

1*st Method.*—Take hold of the bow with the left hand, having the elbow straight: then, having placed the arrow as directed in the last paragraph, and having the finger-stalls or shooting-glove on, put a finger on each side of the arrow on the string, and the thumb on the opposite side, so as to steady it; then raise all at the full length of the arm till the right hand reaches nearly to the level of the shoulder,

Attitude in Shooting.

and the left is opposite the target, when, by drawing the one to the ear, and the other towards the target, the arrow is brought to a direct line with the bull's-eye, and at that moment it is released.

2nd Method.—Draw the arrow as before, but pause when the arrow is fully extended to the head, and take aim. This, however, requires a very strong arm, and also a strong bow, or there will be a quivering of the muscles, which is communicated to the arrow; besides the danger of breaking the bow. The loosing must be quick, and the string must leave the fingers smartly and steadily, the bow hand at that moment being held as firm as a vice, upon which the goodness of the flight mainly depends.

The Following Directions should be attended to strictly, if good shooting is to be attained:—

1.—Fix the attention steadily upon the object, and disregard all external objects, which are liable otherwise to distract the eye at the moment of shooting.

2.—In drawing the bow, in order to secure the arrow in its place, turn the bow a little obliquely, so that the handle and your knuckles will together form a groove for the arrow to run in. When it falls off, it is from the string being held too far up by the fingers, which causes it to twist in the drawing, and the arrow is thereby thrown off from resting against the bow. The proper length is midway between the ends and the first joints of the fingers. Three fingers may be used, but the arrow should be between the first and second.

3.—In taking aim, two points must be attended to—viz., the Lateral *direction* and the *distance*, because there is no bow which will drive an arrow many yards perfectly *point blank*, and consequently, a slight elevation must in all cases be made, and for long distances, with weak bows, a very considerable one. It requires great experience to manage the elevation properly, and much must depend upon the exact strength of the bow, and the distance to be shot. With regard to the lateral direction, it is materially affected by the wind, and this must always be allowed for if there is any stirring; and if it is in the line of the targets, one end will require much less elevation than the other.

4.—Fix the eyes on the mark, and not on the arrow. Avoid all such expedients as putting a mark on the glove to aim by. Do not look from the mark to the arrow and back again. The proper plan is to keep both eyes open, and look steadily at the mark, while with the hands the bow is raised or lowered in accordance with what the *mind thinks* is the proper direction.

5.—If an arrow falls off the string, and the archer can reach it with his bow, it is not shot; but if he cannot, it must be counted as such.

Sect. 3.—Target-Shooting.

The Targets are fixed exactly opposite each other, at 60 yards or perhaps more apart. The stands, when properly placed, are each called "an end." The proper number of arrows, as fixed by the rules, are then shot from each end by all the party assembled, when all proceed to pick up or extract their arrows, the marker scoring for each before drawing them from the target, according to page 583; after which the party shoot back again to the other end, and so on until the whole number of ends have been shot.

Sect. 4.—Butt-Shooting.

Butts are built of long sods of turf pressed together. The form of the base is an oblong square, being about 8 or 9 feet

on the front side, and 5 feet wide at the ends. The height is generally about 7 feet, and the depth diminishes gradually from the bottom to the top. When more than two are wanted they are ranged in sets: each set consists of four, ranged at the distance of 30 yards apart, and forming a chain of lengths of 30, 60, 90, and 120 yards; but so disposed as not to stand in the way of the archers when shooting at any of the lengths. (See "Roberts's English Bowman.") Against the front of the butt is placed the mark, which is a circular piece of thin white pasteboard, fastened by a peg through the middle. The size of this, for 30 yards, is 4 inches in diameter; for 60 yards, 8 inches; and so on increasing in diameter in proportion to the distance. Shots in the butt missing the mark are not scored; and he who makes the greatest number of hits is the winner. If two are alike, the nearest to the central peg is the successful one.

Sect. 5.—Roving.

This is so called because the archers rove from place to place, and have no fixed target, but shoot at trees or any other object which presents itself. The winner of the first shot chooses the next, and so on; the distance being from 100 to 200 yards; and all arrows falling within 5 bows' lengths scoring, if nearer to the mark than the adversary's arrow.

Sect. 6.—Flight-Shooting.

Flight-Shooting is merely a trial of distance, and he who can shoot the farthest is the winner of the trial.

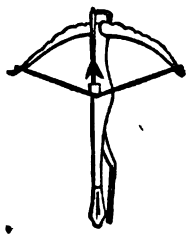
Sect. 7.—Clout-Shooting.

The Clout is a small white target of pasteboard, about 12 inches in diameter, which is slipped into a cleft stick, and this is stuck into the ground obliquely, so as to bring the lower edge of the clout to the ground. The distance is generally from 8 to 10 score yards, and the same rules apply as in roving.

Sect. 8.—Cross-bow-Shooting.

Cross-bows are bows set in a frame, which receives the arrow or bolt; and they are set and discharged by a trigger after taking aim. They are, however, now seldom used except for rook-shooting; and even there the pea-rifle has almost entirely superseded them. (*See fig.* 6.)

Fig. 6



Norman Bow.

Sect. 9.—Rules of Archery Meetings.

The Rules by which archery meetings are governed are partly the same as in all other similar societies, and partly peculiar to this craft. The former consist of those which regulate the election of members, providing for refreshments, &c., which vary according to circumstances, and need not here be specified. The latter are generally as follows:—

1.—That a "lady paramount" be annually elected.

2.—That there be —— meetings in each year, the gentleman at whose house the meeting takes place to be president; and that every member intending to shoot shall be on the ground by —— o'clock. The shooting to commence at —— and to terminate at ——.

3.—That all members intending to shoot shall appear in the uniform of the club; and that a silver badge be worn by every member of the society, or a forfeit of ten shillings will be enforced for each omission.

4.—That the secretary do send out cards at least a month before each day of meeting, acquainting the members with the day and place of meeting.

5.—That there shall be four prizes at each meeting, two for each sex; the first for numbers, the second for hits; and that no person shall be allowed to have both on the same day. The sum of —— pounds to be placed at the disposal of the "lady paramount" for prizes at each meeting.

6.—That the winner of a prize, or prizes, shall lose a ring for each prize won. But that a ring be given back after any subsequent meeting at which such member shall shoot without winning.

7.—That in case of a tie for hits, numbers shall decide; and in case of a tie for numbers, hits shall decide.

8.—That the decision of the "lady paramount" shall be final.

9.—Two prizes to be given at each meeting for strangers, of the value of ——.

10.—That there be a challenge prize of the value of ——, and that a commemorative silver ornament be presented to winners of the challenged prize, to which a clasp be added on future occasions.

11.—That the distance for shooting be 60 and 100 yards, and that 4-feet targets be used.

12.—That each shooter be allowed to shoot —— arrows, distinctly marked or coloured.

Sect. 10.—Dress.

The Usual Dress for Ladies peculiar to archery is shown in the opposite sketch, which also gives the attitude in ladies' shooting extremely well. In most cases a green jacket is worn over white; sometimes, however, the colour is black. (See *fig.* 10.)

The gentlemen's costume is not generally fixed in archery clubs, but sometimes a green suit is the club uniform.

Sect. 11.—Expenses.

The expenses of archery are not usually great, though a good many arrows will be lost or spoiled during a season's shooting, especially if the grass is not kept mown very close. Bows and all the other paraphernalia last a long while; and, with the exception of the arrows, the first cost may be considered to be the only one, over and above the subscription to the club, to which most archers like to belong, competition being the essence of the sport.

Fig. 10.

Ladies' Costume.

The following are about the usual charges which are made for bows, arrows, &c. &c.; but they vary a good deal with the different makers.

	£	s.	d.	£	s.	d.
Gentleman's bow .	2	2	0 to	9	9	0
Lady's bow . . .	1	1	0 „	3	3	0
Arrows (each) . .	0	1	6 „	0	3	0
Quiver, brace, glove, &c., about				1	1	0
Targets (per pair)				1	11	6
Stands (per pair)				1	1	0

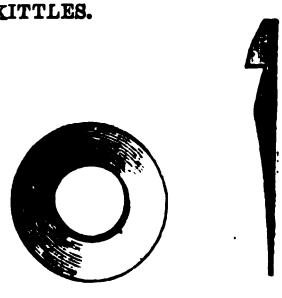
CHAPTER II.

QUOITS AND SKITTLES.

Sect. 1.—Quoits.

Quoits is a game requiring great strength and quickness. It is played with a flattened ring of iron called a quoit, thick at its inner, and thin at its outer edges, and with a pin of iron driven into the ground, called a "hob." The quoits are light or heavy, according to the strength of the player; and in playing a match it is usual to specify the weights.

The Game is played by driving two hobs into the ground at the distance agreed upon, which varies from 15 up to 80 yards. The players are either two or more; but if more than three, they are generally

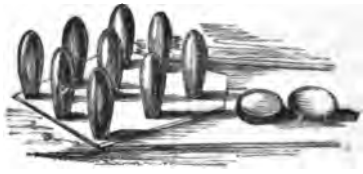


Quoit and Hob.

arranged in sides in the usual way. Each player has two quoits, and throws one of them in his turn, with the view to its falling over the hob; after all have thrown one round, they throw the others, and then all throw back again to the other hob. The quoit is held with the forefinger along its outer edge, in which there is a small dent for the end of the finger to lie in without cutting it. The two surfaces are held between the thumb and the other fingers, and the quoit is pitched flat, with a slight rotary motion to make it pass smoothly and horizontally through the air. The score depends upon the quoit falling on the pin, or upon the distance from it; but the nearest quoits only count—that is, one for each player.

Sect. 2.—Skittles.

Skittles, nine pins, and Dutch pins, are modifications of the same game, and are played with different rules in almost every town. The essence of the game is the bowling at certain pins, varying in number from four to nine, placed upright, and bowled down by disks of wood edged with iron, running along a board placed for the purpose. It, like tennis, can only be played where there is a proper alley, and there its rules may always be readily learned.



CHAPTER III.

CURLING.

Curling, which is by far the most interesting and exhilarating of Scotia's games, appears to be of very considerable antiquity. In a book published in Perth about 1600, entitled the "Muses' Threnodie," giving an inventory of a deceased gentleman's effects, the following lines appear—

> "His hats, his hoods, his bells, his bones,
> His alley bowls, his Curling Stones."

About the year 1840, a great and very important change took place in curling, which gave a wonderful impetus to the game, not only in Scotland, but in Canada, &c. Previous to this time almost every club (or parish) had rules peculiar to itself, and when neighbouring clubs or parishes met to play a bonspiel or match, the rules to be observed during the game formed a subject of some difficulty, and often of very great contention. To obviate this, a meeting took place in Edinburgh, about 1840, at which many keen curlérs attended, from different districts of the country. At this meeting the Grand Caledonian Curling Club was formed, which issued a set of rules, by which the game was to be regulated by every affiliated club. The curling stones also at this time underwent a great change: formerly a coarse stone or boulder from the field or a dyke, with a smooth bottom, was reckoned quite sufficient; into the top of which was fixed an immovable coarse iron handle. Indeed, curling stones originally had no handles, but were pushed along the rink with the hand. Now, however, these stones are of a certain diameter and thickness, most beautifully polished, with elegantly mounted handles, which can be screwed into the stone, unscrewed, and taken home in the pocket; no stone is allowed beyond 50lbs. In 1842, Prince Albert became the patron of the club; in 1843, Her Majesty graciously allowed it to take the designation of "Royal." Curling is the most friendly and social of all the games ever invented for the amusement of the human race; the poorest mechanics or peasants, provided they are keen and good curlers, are most cordially received, and associated with dukes, earls, lords, and baronets, on the icy board. As an illustration, we may refer to the great

match or bonspiel, in 1784, between the Duke of Hamilton (Lanarkshire), and Macdougall of Castle Semple (Renfrewshire), seven players on each side; the noble duke, in selecting his men, fixed upon Tam Pate, the cadger, whose business ordinarily was to hawk haddocks and herrings through the country. The duke (himself a player) appointed Tam skip or head of the rink; the game was so keenly contested, that before the last stone was played both sides were equal; that stone had to be played by Tam Pate. No one thought that it was possible to take it; but Tam, with the greatest coolness and unerring precision, took that shot, and thus gained the victory for the Duke of Hamilton. The number of members belonging to the Royal Club (*mirabile dictu!*) amounts to about 12,000. On the pond belonging to the club, situated near Blackford, Perthshire, when a great bonspiel or match is played between the south and the north of Scotland, there has been seen 2000 curlers, and 5000 lady and gentleman spectators—the pond is seventy acres in extent. Curling is much practised in Canada, where there is fine ice for the whole winter season; the Canadians some time ago sent a challenge to the Royal Club, expressing a strong desire that four or eight of the club's best players should cross the Atlantic, and play a match for beef and greens.

Rules of the Game.

1. The length of the rink shall be forty-two yards; any deviation occasioned by peculiar circumstances to be by mutual agreement of parties. When a game is begun, the rink is not to be lengthened nor shortened, unless by consent of the majority of players.

It is advisable that rinks have double tees at each end, the one at least two yards behind the other, the whole four to be as nearly as possible in the same line. The stones are to be delivered from the outer tee, and played towards the inner; this saves the ice from being injured around the tee played up to.

2. The rink shall be changed in all cases when, from the springing of water, the majority of players cannot make up. Neither the winning nor losing party have right to object, as all contests must be decided on the fair and equitable principle of science, not of strength.

3. The number of shots in a game, if not otherwise mutually fixed upon, shall be twenty-one.

A game more frequently consists of thirteen shots, or even of seven, than of any others, when an hour or two's practice only is intended; but this is a matter of private arrangement.

In a bonspiel or match, when a considerable number of players appear on each side, the aggregate number of shots gained in a fixed time is not only as equitable a method, but affords amusement to all the rink to the conclusion, and ought to be universally adopted.

4. The hog's score to be one-sixth part of the length of the ring from the *tee*. Every stone to be considered a hog which does not clear a square placed upon the score.

5. Every rink to be composed of four players a side, each with two stones, *unless otherwise mutually agreed upon*. In no case shall the same individual or party play two stones in succession, and every player shall deliver both his stones alternately with an opponent, before any other of the same side or party play one.

6. Parties to draw cuts which shall fill the ice at the first end; after which the winning party of the last end or game of that day's play shall do so. *No stone to be counted which does not lie within seven feet from the tee*, unless it be previously otherwise mutually agreed upon. In cases where each party has a stone equally near the tee, neither to be counted, and the winning party of the previous end is again to fill the ice. Measurements to be taken from the centre of the tee, to that part of the stone which is nearest it.

7. Each player to place his feet in such a manner as that, in delivering his stone, he shall bring it over the tee. A player stepping aside to take a brittle (or wick), or other shot, shall forfeit his stone for that end. A player, after delivering his last stone, shall not remain longer than to see his next opponent fit his tee, but shall take his place at the other end, between the score and the previous player of his own party; and shall on no account remain to give directions to the next of his party who plays.

The Committee strongly recommend the adoption of Cairnie's foot-iron, which overrules all chance of dispute.

8. If any player shall improperly speak to or interrupt another while in the act of delivering his stone, one shot shall be added to the score of the party so interrupted.

9. The rotation of play adopted at the beginning must be observed through the whole game.

10. All curling stones shall be of a circular shape. No stone must be changed

throughout the game, unless it happens to be broken, and then the largest fragment to count, without any necessity of playing with it more. If a stone rolls and stops upon its side or top, it shall not be counted, but put off the ice. Should the handle quit the stone in the delivery, the player must keep hold of it, otherwise he will not be entitled to replay the shot.

11. If a player plays out of turn, the stone so played may be stopped in its progress, and returned to the player. If the mistake shall not be discovered till the stone is again at rest, the opposite party shall have the option to add one to their score, and the game proceed in its original rotation, or to declare the end null and void.

12. In double-soled stones, the side commenced with shall not, under forfeit of the match, be changed during the progress of the game.

13. The sweeping department to be under the exclusive control of the skipper. No sweeping to be allowed by any party till the stone has passed the hog's score, except when snow is falling or drifting, in which case it shall be admissible to sweep from tee to tee. The player's party may sweep when the stone has passed the further hog's score, his adversaries when it has passed the tee. Sweeping to be always to one side. Previous to each direction being given, either party are entitled to sweep the rink clean.

14. Parties before beginning to play to take different sides of the rink, which they are to keep throughout the game; and no player on any pretence to cross or go upon the middle of the rink. The skippers alone to stand about the tee. Their respective parties, according to their rotation of play, shall take their position down to the hog's score.

15. If in sweeping, or otherwise, a running stone be marred by any of the party to which it belongs, it shall be put off the ice. If by any of the adverse party, it shall be placed where the skipper of the party to whom it belongs shall direct. If marred by any other means, the player shall take his shot again. Should a stone at rest be accidentally displaced at any part of the end before the case provided for in Rule 13 comes into operation, it shall be put as nearly as possible in its former position.

16. Every player to come provided with a besom, to be ready to play when his turn comes, and not to take more than a reasonable time to throw his stones. Should he accidentally play a wrong stone, any of the players may stop it while running; but if not stopped till it is again at rest, it shall be replaced by the one which he ought to have played.

17. No measuring of shots allowable previous to the termination of the end. Disputed shots to be determined by the skippers; or, if they disagree, by some neutral person mutually chosen by them, whose decision shall be final.

18. Should any played stone be displaced, before the last stone is thrown and at rest, by any of the party who are lying the shot, they shall forfeit the end; if by any of the losing party who have the stone yet to play, they shall be prevented from playing that stone, and have one point deducted from their score. The number of shots to be marked by the winners to be decided by the majority of the players, the offender not having a vote.

19. The skippers shall have the exclusive regulation and direction of the game, and may play in what part of it they please; but having chosen their place at the beginning, they must retain it till the end of the game. The players may give their advice, but cannot control their director; nor are they upon any pretext to address themselves to the person about to play. Each skipper, when his own play comes, shall name one of his party to take charge for him. Every player to follow implicitly the direction given him.

20. Should any question arise, the determination of which is not provided for by the words and spirit of the rules now established, it may be referred to the three nearest members of the Representative Committee, unconnected with the disputing parties, who shall form a District Committee of Reference, and whose decision shall be binding on all concerned till the Annual General Meeting of the Representative Committee, to whom either party may appeal the case.

PART III.

RURAL GAMES AND OUT-DOOR AMUSEMENTS.

BOOK III.—ARTIFICIAL MODES OF LOCOMOTION.

CHAPTER I.
SWIMMING.

Sect. 1.—General Remarks.

This Mode of Locomotion is, next to walking, the most primitive and simple, being practised by all savage nations, who are generally great adepts in the art. It is not, however, a natural power in man, the child of the savage requiring to be taught as much as the denizen of the civilized world. This is a very remarkable fact, and marks the difference between man and the brute creation in a point not to the advantage of the former. The dog and the horse, on falling into the water, are able to swim; and though they are sometimes rather awkward at first, yet they are never in absolute danger of drowning. Man, on the other hand, without learning to swim, would almost invariably drown, in spite of all that has been written on the subject. It is true that some people of capacious chests, and with a great development of fat, are able to support themselves in the water without the use of their hands or legs; but, in the vast majority of cases, the drowning man who trusts to his mere buoyancy will indeed "catch at a straw." This being the case, every one should learn to swim; and even if ladies were taught many lives would be saved, not only of that sex, but of their male protectors, who are often sacrificed in attempting to save their charge. Few people would be more than a fortnight in learning the rudiments of the art; and now that swimming-baths are common in every city and town of any size, there is no excuse for the postponement of the duty.

Sect. 2.—Aids Used in Swimming.

Various Kinds of Apparatus have been recommended for sustaining the body, as cork-jackets, swimming-belts, bladders, &c.; but, though they may be turned to advantage in case of shipwreck, they should never be relied upon at other times, as they are not unattended with danger, in consequence of their sometimes slipping down too low, and thus causing the head to be kept under water. In learning, the hand of the master is the only safe aid, with the addition of a rope in some cases. The swimmer should, for the sake of decency, always wear a pair of short drawers; and when he has mastered the rudiments of the art, he should accustom himself to swim in a full suit of clothes, adding one article to another as he finds he can manage their weight. At first they rather buoy him than otherwise, but very soon all the air is removed by the pressure of the water, and they then serve to impede his progress very considerably; the swimmer, therefore, should persevere in their use for some little time, or until they are thoroughly saturated, when he will be able to estimate their effect in case of an unlooked-for immersion.

Sect. 3.—Various Modes of Progression in the Water.

There are several varieties of swimming—first, the ordinary method; secondly, the upright, or Italian; thirdly, the dog-like; fourthly, the hand-over-hand; fifthly, on the back; sixthly, with certain limbs only; seventhly, on one side; and eighthly, under water, commonly called diving.

The Horizontal Method of Swimming is that most commonly practised in this country; but there seems to be no doubt that the Italian method in the upright position is the best adapted for long distances in warm climates, being most in accordance with the ordinary movements of the body. In order to gain an exact knowledge of the actions which are developed in the ordinary style, it is only necessary to get possession of a frog, and watch its motions in the water, where the movements of the fore and hind extremities are so slowly and deliberately performed, and so exactly in accordance with those of the human body, that they have only to be slavishly copied

to produce a swimmer. As far as the theory of progression in the water goes, the principle is, that there shall be an alternating stroke of both hands and feet *downwards and backwards*, by which the body is at once supported and propelled. At the same time there is another object to be attained, which consists in thrusting forward the hands and legs after the stroke with as little surface exposed as it is possible to manage. It is obvious, that if a body in the water is moved backwards and forwards with the same velocity, and exposing the same surface at the same angle, the effect produced in one direction is neutralized by that caused in the other, and, as a consequence of these opposing forces, it remains stationary. But if the same body is moved forwards when folded up, and backwards when expanded, both being done with the same power and velocity, the progression will be in proportion to the difference between the two surfaces exposed. And this is what takes place in swimming, in addition to the difference in the two velocities. The first action is to thrust forward the hands as far as possible, with the edges only presented to the fluid, and the palms in apposition; as soon as this is done, the palms are separated, and face outwards and downwards, in which position the whole arm, extended horizontally on each side the body, is swept rapidly backwards till the hands are brought to the hips. The arms and hands are then gathered up with as little exertion as possible under the belly, and again protruded as before, after which the stroke is repeated. So much for the action of the arms. With regard to the head, it is thrown back as far as possible, so as to raise the mouth out of the water; for it is the shortness of the neck of man, and the difficulty of thrusting his mouth out of the water, which creates the chief impediment to his swimming, and separates him from the brute creation in this element. The action of the leg is neither exactly synchronous with the arms nor precisely alternating with them, but for all practical purposes they may be considered as alternating. At the moment when the hands are fully extended, the legs have just completed their stroke (see *fig.* 2), and are then drawn as quietly under the belly, while the arms are making their effort; upon the conclusion of which, or rather a little before its conclusion, the legs are violently thrust backwards, outwards, and downwards, completing the act in a shorter time, and with greater power, than the arms have previously done. Thus, the mere art of swimming may be divided into three essential parts — first, the carriage of the head; secondly, the action of the arms; and thirdly, the action of the legs; all of which may be practised out of the water on any small surface raised from the ground, such as a chair or stool.

Learning to Swim.—The putting this theory into practice is effected in various ways, some of which are as follows:—

1*st Method.*—In the Swimming Bath, with a master or teacher of the art, the quickest way is to suspend the swimmer from a projecting lever, as shown in *fig.* 1. A broad belt is buckled round the chest,

Fig. 1.

Teaching to Swim.

and is shifted higher or lower till it exactly balances the body, so as to leave the head just above water when suspended by it from a cord. The master now passes this cord over a pulley in the end of the projecting lever, which, like a crane, works upon a centre and gives way with the movements of the swimmer. He is now suspended on the surface of the water by the cord held in the master's hand, and is told to strike out vigorously with arms and legs, according to the previously explained motions required by the art. As soon as he gains some little confidence and power so as to support himself partially, the rope is suffered to slip through the pulley, and the pupil is left to his own efforts; but, upon his sinking at the end of a stroke or two, he is immediately raised by the cord and recovers his wind and his confidence. In this way a short lesson, repeated every day for a week, almost always teaches the pupil to keep his head above water for 20 or 30 strokes; after which, practice and time only are wanted to increase the distance and number of strokes. At first the progress through the water is very slow, and the legs, arms, and hands seem to do no good; but soon power is gained over this unstable element, and a few yards are compassed in ten or a dozen seconds. After which the progress depends upon the natural powers and perseverance of the pupil.

2nd Method.—When in the Swimming Bath, the pupil cannot always have the benefit of the master, and if so, he may adopt the plan of using a cork-jacket or a life-preserver round the waist, under the arms; but it is a bad plan, and confines the arms too much for learning to swim rapidly and easily.

3rd Method.—If the Bather is in an Open River, a place should be selected where there is a long shelving bank, and there the learner should attach a cord to a stout post or stump of such a length as to allow him to wade out to his full depth; he then turns round, having the cord fastened to his wrist, so that in any case he may be pulled ashore if he should lose his presence of mind. As soon as he faces the bank he may strike out boldly towards it, not caring how he gets there so that he does not touch the bottom with his feet; but whether under water or above it matters little. (See *fig.* 2.) The celebrated Franklin advised

Fig. 2.

Learning to Swim.

the learner to endeavour to dive before learning to swim, so as to discover the difficulty which exists in getting under water; but I have always found that this plan does not answer in teaching to swim quickly, inasmuch as the learner speedily takes the facts for granted, and does no more, from his dislike to the process; besides which, the diver without a cord is very apt to get into deep water, and many accidents have occurred from attempting to follow out Franklin's suggestion. By trying the plan on the method I have described, the young swimmer will generally manage at first to swim a dozen strokes, pretty nearly in the same place, it is true, but by-and-by gaining confidence and skill, he increases his length of swim, and soon strikes the bottom with his knees, by reaching the shallow water. I have seldom known this plan tried without the learner mastering 12 or 15 strokes in the first week, and after that, as in the first method, ultimate success is easy enough. In making the stroke with the arms, as soon as it can be leisurely done, a rapid expiration and inspiration ought always to be made towards the end, while the body and head

are well raised out of the water, and mouth clear. If done before that moment considerable buoyancy is lost, because the chest ought to be maintained as full of air as possible during the stroke of the legs, for the sake of its greater lightness in that condition; and also during the early part of the stroke of the arms, because the chief fixed points for their muscles are the ribs and other walls of the chest; and if they are not fixed, the muscles of the arms cannot act with their full power.

THE UPRIGHT SYSTEM of swimming, called the Italian mode, or the plan of Bernardi, is much used abroad, but is not common in England, where the old plan still holds undisputed sway. Most good swimmers *can* swim on this plan, using their limbs alternately; but they do not progress so fast as in their old and accustomed mode. According to the report given by the Neapolitan Commission on the relative advantages of the two plans, the following is the state of the case:—

First.—"It has been established by the experience of more than a hundred persons of different bodily constitutions, that the human body is lighter than water, and consequently will float by nature; but that the art of swimming must be acquired to render that privilege useful.

Secondly.—"That Bernardi's system is new, in so far as it is founded on the principle of husbanding the strength and rendering the power of recruiting it easy. The speed, according to the new method, is no doubt diminished; but security is much more important than speed; and the new plan is not exclusive of the old, where occasions require great effort.

Thirdly.—"That the new method is sooner learnt than the old, to the extent of advancing a pupil in one day as far as a month's instruction on the old plan."

The latter part of this report is not founded upon correct *data*, because a good teacher on the old plan will make many pupils into good swimmers long before the end of the month; but I believe it is indisputable that a greater distance may be passed in swimming in this Italian mode than in the horizontal position; yet while the latter mode will allow of the distance being passed which Leander and Lord Byron achieved, it is scarcely necessary to look for greater power, especially when in the other plan speed is lost as much as distance is gained. Many men can swim slowly and without any great effort for hours, if the water is warm, and their powers of swimming are only limited by their capabilities of enduring immersion. Hence there is little gained by this mode, and some attendant disadvantages.

BERNARDI'S PLAN is as follows:—The pupil is supported in the upright posture in deep water, by means of a hand under the arms, which are stretched out horizontally under the water. The head should never be allowed to sink, but the body may be left unsupported for a short space if the pupil can be persuaded to remain quite quiet, which he will do if he has full confidence in his master. If the legs are inclined to come forward or backward, or to rise on either side, a movement of the head in the same direction corrects the tendency; and this is instilled into the pupil, and he is practised accordingly. When he can manage to maintain the perpendicular position by this mode of balancing, the most difficult part of the process is accomplished. The next thing is to teach him to advance one leg, keeping the other back, and with the arms still horizontal, this is easily done; and the legs may be taught to be used as in walking. After this, the arms are practised in the sweep peculiar to the plan, which is first attempted while the body is stationary, and is exactly the reverse of the use of the arms in the old style, each hand being thrust out nearly sideways, and then brought one after the other round in front of the chest, embracing, as it were, a body of water within its grasp. When wishing to retreat the body is inclined backwards, the arms are reversed, and the water is pushed from the body. The outside rate of swimming in this way is about three miles an hour in still water, which is not much more than half the ordinary speed.

THE DOG-LIKE style of swimming is inferior in all respects to both the above methods, being slower than the Italian, and at the same time not more capable of sustaining a long distance than the common mode. It is, however, of use in relieving the tired muscles after a long swim, since the set used in this mode are entirely different from those generally employed. In dog-like swimming, each hand and foot is used alternately (see *fig.* 3), just as a dog uses his, and hence the style has received its name. One hand is thrust gently forwards, with the palm flat and the fingers close together; it is then brought back to the level of the breast, and the other hand used in the same way. While each hand is thus being used, the foot and leg of the other side is drawn up to the belly, and then thrust backwards, outwards, and downwards, with a kind of kick. In this

mode the action of the arms and legs is exactly in unison; first, the right arm and left leg acting together, and then the left arm and right leg. The leg is drawn up to the belly to the utmost extent of its flexion, at the same time that the opposite hand is beginning its stroke, which is not quite sufficiently shown in the engraving.

Fig. 3.

Dog like Swimming.

The Hand-over-Hand style is a very rapid mode of swimming, and is adopted for short distances, when it is desired to reach a drowning person very quickly; but it cannot long be maintained, in consequence of the great muscular effort required. It is an exaggeration, as it were, of the dog-like style. One hand is first lifted out of the water, and the whole arm *and shoulder* swung through the air, with a sweep forwards as far as the reach will permit. It is then dropped into the water edgeways (see *fig.* 4); after which it is turned with the palm downwards. While this has been going on, the shoulder is so far advanced that the body is thrown on its side just after the hand reaches the water, and the opposite leg having been drawn up under the belly is forcibly thrust backward. The hand now is swept back towards the hip, and when extended straight backwards is raised from the water and swept forwards in the air as before; thus, as it were, revolving in an oval, half under water and half in the air. There is a slight pause of the hand at the hip while

Fig. 4.

Hand-over-Hand Swimming

the other hand is being thrust forward, and the stroke of the opposite leg is synchronous with that pause.

Swimming on the back is usually effected by the feet alone, as shown in *fig.* 5. The body is first thrown on the back by the arm and leg of one side. The head being thrown back and immersed, with the exception of the face; the chest is expanded and inflated as fully as possible, and the hands placed flat upon the groin (see *fig.* 5), or else used as fins, keeping the wrists close to the hips.

Fig. 5.

SWIMMING ON THE BACK.

The legs are thrust back as in ordinary swimming; but the knees should not come out of the water. If the legs are not to be used, as is sometimes necessary in cramp, they must be extended stiffly in the horizontal position, and the heels and toes are kept close together. There is a slight dip of the body at the hips, and an arching of the loins, and the hands are kept working in small circles from the navel towards the outside of the hip, by which the body is slowly driven forwards. If progression in the opposite direction is desired, the position is the same in all respects, except that the elbows are kept close to the hips, and the hands are worked from the hip to the navel, as if fanning the pit of the stomach, commencing from the position shown in the engraving, and ending at the navel (see *fig.* 6).

Fig. 6.

SWIMMING ON THE BACK.

SWIMMING WITH CERTAIN LIMBS only, may be either with the hands only, or with the feet only; or with one hand and both feet; or both hands and one foot; or with the hand and foot of the opposite side. In swimming WITH THE HANDS, the body is upright, the feet are deeply sunk, and the arms are used in the ordinary way, but with the palms more flat, and the stroke more towards the hips, and deeper in the water. In using THE LEG ONLY, there is great difficulty in making any progression, and none but practised swimmers can do more than keep their position, called *treading water*. Some, however, can fold their arms across their chests, and yet make some considerable way with their legs alone. In USING ONE HAND WITH THE FEET, the body is thrown on one side, the feet sunk rather deeply, and the other hand kept close to the hip. With BOTH HANDS AND ONE LEG a good progress may be made by any moderate swimmer; but it requires some art to keep up for any length of time

the use of ONE LEG AND HAND OF OPPOSITE SIDES. The dog-like action is the one to be adopted.

IN SWIMMING ON ONE SIDE the body is turned on either side, while the feet act as usual. The undermost arm is thrust well forward with a good sweep, while the upper one is used more like a paddle, striking at the same time as the legs. Immediately after this synchronous action of the three limbs, the lower arm makes its stroke; and thus keeps up the body while the upper arm and the legs are being drawn forwards to repeat their stroke.

SWIMMING UNDER WATER is practised by many who cannot keep their heads above it. I have known many who could swim for a considerable distance in this way, and who yet would drown if they could not reach the shore under water. There are three ways of progressing under water—first, with the legs only; secondly, with the legs and arms; and thirdly, by means of the bed of the river, or sea, when shallow water is the scene of the bathe. In swimming with the legs only, they are used as in ordinary swimming; and the hands are kept extended before the head, with the palms horizontal. To descend, the hands are inclined downwards, but not forcibly, and are then turned and pressed quickly upwards; to ascend, they are first gently raised and then pushed downwards against the water, which, joined to the lesser specific gravity of the body, soon brings it to the surface. When the object is to dive straight down, the palms are turned upwards, and the water is gathered, as it were, very rapidly, and with short strokes; the feet being quiescent and straight till the body is quite perpendicular, when a few rapid strokes greatly assist the downward progress. The eyes should, if possible, be *kept* open in diving, as it is very difficult to open them after once the head is immersed.

SECT. 4.—MODES OF SUPPORTING THE BODY WITHOUT PROGRESSION.

IN FLOATING horizontally on the back, the arms are thrust forward, the head is bent back with the face only out of the water, and the body and legs are kept nearly straight, but with a slight bend at the hips. The chest should be fully inflated by making a deep inspiration, and afterwards keeping up respiration by very short expirations and inspirations. (See *fig.* 7.)

Fig. 7.

FLOATING ON THE BACK.

PERPENDICULAR FLOATING is effected by bringing the arms forwards and crossing them over the chest, straightening the loins, and throwing the head back. It is more difficult than the former plan, and requires a more capacious chest. (See *fig.* 8.) If in this position a person with a good sized chest, and free from disease of the lungs, remains perfectly still and breathes so as to keep the chest as full of air as possible, he will in still water be able to keep his nose above its level for any length of time; because, though he sinks when his chest is partially emptied of its air, the act is so quick that the broad surface offered by his back prevents the body from being affected by this change of gravity until the quantity of air is restored by the quickly following inspiration. It is a very good test of health and soundness of lung, and if a man floats easily, it may generally be assumed that his lungs are sound; but it is not to be supposed because a man does not float that the reverse is the case, for many sound men cannot float for an instant, even though they can swim. It is a mis-

taken idea that every person falling into the water can save himself by remaining quiet and throwing back his head; and as it

Fig. 8.

PERPENDICULAR FLOATING.

tends to a false sense of security, and to a neglect of learning to swim, its fallacy ought to be fully known.

TREADING WATER is a mode of supporting the body without progression, but with the head considerably above the level of the water. It is chiefly useful in sustaining a drowning man, when two persons, one on each side, taking him by the arms, he may be readily kept above water until assistance arrives; whereas, in other modes the head is immersed and respiration can not take place. It is, however, a dangerous experiment, unless the two assistants co-operate with full vigour, and prevent that grappling which is so commonly fatal to both parties. But if both aid in disentangling the hands, it must be a very powerful grasp which can impede a good swimmer when assisted by a second equally good. The treading is either by both legs at once, as in swimming, but perpendicularly, or by one at a time; the latter being less powerful than the former, and not nearly so efficacious in supporting a dead weight. It is the mode of swimming adopted preparatory to springing out of the water, when any bough or rope above its level is to be seized hold of.

SECT. 5.—BATHING.

THE BEST TIME OF THE DAY for bathing is between breakfast and dinner, with the stomach neither full nor empty; and no one should ever think of entering the water in either of these conditions—eating a biscuit if fasting, and carefully avoiding bathing directly after a full meal. Generally speaking, bathing before breakfast, in delicate constitutions, is not attended with sufficient reaction, which is marked, when present, by a good glow of the skin. Many, however, are robust enough to bear it with impunity, and bathe every day before breakfast almost all the year round, even breaking the ice for that purpose. As a rule, however, it is a bad practice, and the hour above-mentioned is much better for nearly all purposes, except those of convenience. With regard to winter bathing, it is only adapted to the very robust; and in the months of December, January, and Feb-

Fig. 9.

ENTERING THE WATER.

ruary, it will seldom be long borne with impunity even by them.

THE BEST BATHING PLACES are the sands of the sea-shore, or a clear running stream with shelving banks, when the swimmer is young and inexperienced; but when he is capable of jumping off the bank, he should choose a part where the water is at least nine feet deep, close to the shore, or at a distance of a yard and a half from it. Next to these are the swimming-baths now to be had in most of our provincial cities, and common enough in London.

ENTERING THE WATER is effected either gradually, by walking in and then immersing the head, or by jumping off the bank, head foremost or feet foremost. Many people object to dipping the head, and if no headache is the consequence, it will do no harm to keep the head above water; but if the head is liable to congestion, it is always better to dip it. In jumping off the bank head foremost, when the shore is not very abrupt, and the depth is less than nine or ten feet, the plunge, as here represented, must be adopted (see *fig.* 9); and by entering the water obliquely, the head does not dip much below the surface, and soon reappears, the back scarcely being covered. If, however, the object is to dive deeply from the bank, a deep place or "hole" must be chosen if a river is the scene of bathing, and there the attitude, as given in the engraving (*fig.* 10), is the proper one. When

Fig. 10.

ENTERING DEEP WATER, OR DIVING.

the bank is higher, the spring may be a little more into the air, but in a low bank the body must be curved in the way which the artist has closely copied. When the dive is with the feet downwards, it must be taken from a height, and the legs kept closely together, the toes pointed downwards, the arms close to the side, and the head thrown a little back. Care must be taken not to fall upon either the belly or back; but as it is as easy to jump into the water with the legs downwards as upon land, it is only nervousness which can lead to this error, if it is known to be such.

THE LENGTH OF TIME during which the body will bear immersion without injury will average from a quarter to half an hour, according to the season; but if the weather is cold, a mere plunge is all that is prudent.

CRAMP is the bugbear of the bather; but, unless he is very far from assistance, he ought never to be alarmed at its occurrence. It is seldom that it attacks more than one limb; and he is a very awkward swimmer who cannot support himself with three until assistance comes. The best plan is for the swimmer to throw himself on his back, and forcibly extending the limb by pointing the toe, when it soon leaves the part, and the usual mode may be again tried. Sometimes cramp seizes the bowels, and then the use of both legs is suspended, unless the swimmer is regardless of pain. It should be known that pain alone is to be feared, and that if that can be borne the cramped muscle cannot be injured by persisting in its use through all the pain caused by its forced employment. In cramp of the bowels, the only plan is to float on the back till it goes, or till assistance comes.

THE SAVING A DROWNING PERSON is best effected by one or two going to him, and sustaining him by treading water, if they can depend upon his presence of mind. (See page 598.) In this case the supporters should not go to him in front, but from behind, and each pass a hand under the arm from that situation, so as to keep away from his grasp. If, however, in spite of these precautions, the drowning man should seize firmly hold of another coming to his aid, the only remedy is to sink both to the bottom, and then shake off the grappling limbs, which generally let go as soon as they find that they leave the surface; in any case, however, they must be forced to quit, and the aid must be deferred till animation is suspended. In all cases this is the safest plan, and as soon as the struggles cease, and not till then, the swimmer can easily push the drowning man at arm's length before him to the shore, when restorative means may at once be used. This is done by swimming with one hand and both legs; but if this cannot be managed, then the body should be turned on its back and towed or pushed to the shore; but should it be let go, it often sinks and is lost, and it is very difficult to

manage, except by giving up one hand entirely to the purpose.

THE RESUSCITATION of persons who have been long immersed is better left to medical aid; but in all cases, until that assistance arrives, the following advice will be useful:—Remove the body in the *horizontal* position to the nearest room where there is a fire, take off the wet clothes, and rub it dry as quickly as possible. Then wrap it up in hot blankets, and use very hot cloths to rub the limbs with under the blankets. Hot bricks, or bottles of hot water, may also be applied to the arm-pits, between the thighs, and to the soles of the feet and calves of the legs. The head should be slightly raised, the nostrils irritated with a feather, or by holding smelling salts to them. If there is the power of swallowing some hot brandy and water, or wine and water, with a little ginger, it should be given. If these fail, or the case is too far gone for their employment, artificial respiration or galvanism must be had recourse to, with a turpentine enema, and other strong remedies, all of which require professional aid. A case is related by Dr. Douglas, of Havre, in which respiration was restored after eight hours' suspension, during which friction was perseveringly kept up; and this should always encourage the bystanders to persevere until the arrival of a medical man, competent to pronounce upon the actual condition of the patient. In very urgent cases, artificial respiration may be attempted by passing the nose of a pair of bellows into one of the nostrils, and closing the other with the finger and thumb, as well as pressing upon the left side of the neck behind the windpipe, to prevent the air passing into the stomach. The air is now forcibly driven into the lungs, and afterwards pressed out again by leaning with all the weight of the body through the means of the open hands upon the chest. By alternately using these actions, the air is renewed, and in process of time the natural powers take up the respiratory process, and breathing is restored, if life has not wholly flown.

SECT. 6.—TRICKS IN THE WATER.

THE MILL, OR CATHERINE WHEEL, is performed as follows:—The swimmer lies on his back, with his knees up to his chin; then, while one hand is kept close to the hip, and paddling so as to sustain the body, the other is used with considerable sweeps, and thus rotates the body on its centre.

IN HEAD-OVER-HEELS, the body is bent at the hips, the hands are straightened along the side, and are then used as if throwing the water over the back. This drives the head under, while the feet are used as in swimming, and a complete revolution is effected.

IN HEELS-OVER-HEAD, the swimmer, lying on his back, draws his legs up with a straight knee, and then by sharply paddling with his hands the feet are brought over the head, and overbalancing it effect a revolution.

IN THE DOUBLE WHEEL, two swimmers interlace their feet and knees, and then, keeping their bodies apart, they each use their right hands with power, and their left as sustaining paddles, revolving in a large circle.

LEAP FROG is practised by one treading water and the other swimming up to him, and then, laying both hands on his head, a shove downwards is given, and the swimmer passes on, and treading water himself offers the same "back" as had previously been given to him. There are many other feats which are performed in the water, but the above are those principally adopted by good swimmers. Races, and diving for objects thrown into the water, are very common amusements, but they are apt to lead to too great an effort, and to a long continuance in the water, both of which are highly prejudicial to most persons.

CHAPTER II.

SKATING.

SECT. 1.—THE SKATE.

THE SKATE, which is the only article used in this very ancient as well as modern amusement, is formed of two parts—first, the perpendicular iron plate, which is the essence of the skate, and is a little longer than the foot, with a slight turn up in front, the curve and extent of which form the chief varieties of the instrument; secondly, of the transverse sole of wood or iron, which is merely for the purpose of fasten-

ing the plate to the foot, and in which it is assisted by certain straps.

First.—The iron plate, or "iron," as it is called, is sometimes plane at the bottom, and at others fluted. It is about a quarter of an inch thick in either case. The flute is chiefly useful in very light persons, whose weight is not sufficient to catch the ice without it; but in all those whose weight is more than six or seven stone it is prejudicial, cutting up the ice too much, and soon also becoming clogged, when it is sure to slip, and throw the wearer down with a severe fall. The height of the iron should be about one inch at the back and three-quarters at the front, where the curve should project so as to clear the toe well, but not too far from it. If the skate is made to project too far, the heel must be proportionately raised from the ice in rising on the toe, in which all the power of the stroke resides; and exactly as this is the case will be the tendency to incline unsteadily to the right or left, and consequent tottering nature of the style. Hence, it is found that a short beak, with a rectangular edged iron, the angles being kept well ground, is the best form. The grinding should be across the stone, so as to give a very slight but imperceptible concavity, just sufficient to ensure the sharpness of the angles; and these must be even, so that one edge is not higher than the other. There should also be a slight convexity from before backwards, forming the segment of a circle four feet in diameter. This form is for the purpose of allowing curves to be made; with a perfectly straight edge no deviation from a straight course could be made, but by the use of the curve the skater has only to turn his toe and heel, and the body follows the former as a matter of necessity.

Secondly.—The foot-piece is generally a solid block of hard wood, flat above and shaped to the boot, and rounded below, with a longitudinal groove to receive the iron. It is of the same length as the boot, and is pierced by three flat slits which receive the leather straps for buckling it on; above it has two sharp pins in front and a projecting screw behind, which is to be received in a corresponding hole bored in the heel of the boot, which should exactly fit the screw. Sometimes a peg is substituted for the screw, but though more easily put on it does not make so firm a fastening. The leather strap is about three-quarters of an inch wide, and it is applied with only one buckle, being crossed over the instep in the form of a figure of 8. In inserting the strap, the point is first passed through the middle hole from the outside, then crossed over above and through the foremost hole on the outside also; then crossed over again and through the hindmost slit, again on the outside, after which it is recrossed over the instep and meets the buckle where we began.

Sect. 2.—The Dress.

In this charming exercise the dress should be close and warm, and when additional clothing is required it should be put on beneath the ordinary garments rather than above them; unless the outer coat which may be used is closely fitting to the figure. Flannel next the skin should always be worn, as skating produces great perspiration; and when standing or walking after it a chillness is very apt to come on without the use of this material. Laced boots are the best for the feet, as they keep the skate on more firmly than any other, and no tightening of the strap will supply the place of a well-fitting boot.

Sect. 3.—Skating.

The skates are first to be put on, which is effected by sitting down on a chair or other seat, first seeing that the boots are securely laced; the skate is then taken in the hands, and the buckle loosened, after which the peg at the heel is pushed or screwed into its hole, and the spikes applied to the proper part of the sole of the boot. When a screw is used, the strap must be taken out of the middle and hindmost hole; but with a peg the foot may be slipped into them from behind, merely undoing the buckle. After seeing that the strap is properly crossed, draw it tight through the slits or holes, and buckle it sufficiently tight to fasten the skate on securely; the other foot is then furnished with the skate in the same way, and the amusement may at once be commenced.

The Ice should be smooth for skating in perfection, but for beginners a middle degree of smoothness is the best. A chair, with a bag of bran on it, is a very good support, or a long pole shod with iron, or, if it can be had, a friend's hand. The young skater should rise on his feet, and must be regardless of falls, and should make up his mind to bear them, in fact, to expect them as a matter of course. Nevertheless, he need not be too violent and rash, but should temper discretion with his valour; and will in this way soon learn to balance himself. The legs must be kept together, but not confined at the toes, the

heels being always at first kept nearer together than the toes. As soon as he is tolerably steady, he may try a forward motion, which is effected by either leg; if the right is intended to start with, the left knee must be held quite straight and firm on the ice, bending it, however, very slightly at the moment of striking, but straightening it again as soon as possible. The right foot is then to be advanced with a gliding motion, throwing all the weight upon the inside edge, and upon that part opposite the ball of the great toe. The body is inclined slightly forwards, and the hands balance the body either by holding the back of the chair, or pole, or the hand of another, or, as soon as possible, by the use of a short stick in the air only. When the right foot has been

SKATING.

advanced about a yard, the knee of that leg is to be straightened, and the other knee bent and brought by its fellow in a similar gliding manner, describing a slight sweep in its course, whose convexity is towards the other foot, and as it takes the weight of the body, the right foot is entirely raised from the ice. This motion must be repeated by each foot in its turn, gradually increasing the period during which the foot is kept off the ice, and at last attempting to keep it up for a considerable distance. In this way, by alternate actions of the legs, progression is accomplished slowly at first, but after a short time at a rapid rate. This is the most simple form of skating, and is called THE ORDINARY RUN, OR INSIDE EDGE FORWARD. (See woodcut above.)

THE FOLLOWING GENERAL DIRECTIONS apply to all the simple movements, and should be carefully attended to:—

1. The skater should never look at his feet, or at the ice near him; and should keep a good look out at a distance, not near his own person.

2. He must advance his body a little forward, at the same time keeping his head up, by which a backward fall is avoided.

3. The face should always point in the direction intended to be followed.

4. Stopping is accomplished by bending the knees, drawing the heels together, and bearing on them; or by turning short to the right or left, and advancing the inside foot to take its share of the weight.

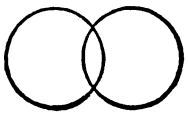
5. All skating movements should be smooth, and free from jerks.

6. The arms should be used as counterpoises to the legs, and as one is advanced the other retreats; in proportion also as the body is inclined must the arms be raised.

THE OUTSIDE EDGE is the commencement of figure-skating, and is the first real difficulty in the art, the ordinary run being soon mastered by any one who is endowed with moderate quickness and courage. The start is made as before, but as soon as the right foot is advanced, the left shoulder must be thrown forwards, the right arm back, and the eyes and face turned over the right shoulder; at the same time the body must be inclined to the right, and the left foot must be raised behind. Next, the left foot is brought by its fellow, and with a slight but smooth approach to a jerk, so as to balance the body. In executing this action, the right foot should first press on the heel of the plate, then on the inside of the toe. As the left foot touches the ice, which it must do about eight inches in front of the right, it strikes off to the left on the outside edge, the skater making at the same time a strong forward stroke from the inside of the right foot. In this way he passes from right to left, while inclining to the left side; and on repeating the previous action, but reversing it in all points, the body is again passed to the right, and so on alternately. At first the strokes should be short, and the foot in passing may occasionally be suffered to touch the ground; but very soon full command will be gained, and the figure will be completed without any break or deviation from the line of beauty.

THE DUTCH ROLL is effected by starting on the outside edge as before, each foot describing a small segment of a large circle, in the following manner, and maintaining as straight a course as is compatible with the keeping of the skate on its outside edge:—

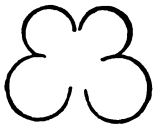
THE FIGURE OF 8 is also done on the outside edge forward; completing the first circle on one leg, and then starting afresh on the other, to form the second. (See *fig.*)



The legs are crossed, and the stroke is from the outside instead of the inside edge, to do which the skater manœuvres as follows:—As he finishes his stroke with his right leg, he throws the left across it, pressing hard at the same time on the outside of the right foot, and striking with that skate immediately, while at the same moment he throws back his left arm, and looks over his left shoulder, which will bring him well on the outside of that skate.

THE MERCURY is an alternation of the outside and inside forward actions, skated with some velocity, gained by a previous run; and when this is complete, the skater being on the outside edge, he is perfectly quiescent in the attitude of Mercury, as usually represented—that is, with the right arm advanced and raised, the face over the right shoulder, and the left foot off the ice, a short distance behind the other, turned out and pointed.

THE INSIDE EDGE BACKWARD, OR THE FIGURE OF 8, is commenced as for the figure of 8, by which the head of the 8 is made;



but on its completion the skater leans suddenly forward and rests on the same toe inside, and a backward motion, making the tail of the 8, is the consequence. Of course each leg will execute exactly the reverse of the figure done by the other. (See *fig.*) The backward motion is not strictly so as regards the body, which really moves sideways, the face being turned towards the point in which progress is desired.

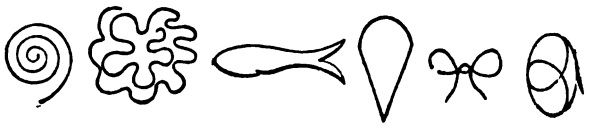
THE OUTSIDE EDGE BACKWARD is the last of the genuine old skating movements, and it is done at the end of the figure of 8, by continuing the progress at the conclusion of that movement, but on the other foot; putting it down on its outside edge, and going backwards steadily and slowly. The skater in executing the manœuvre places the outside edge of the left foot on the ice, and turns his face over the right shoulder, raising his right foot from the ice and throwing back his right arm and shoulder. If he cannot raise the foot which has just completed the 8, he may keep it down, together with the other, for some distance; but he must put himself on the outside of one skate only, and steady himself with the other till he can balance himself so as to raise it. Both feet backward may be used with great elegance in finishing any figure.

BY A COMBINATION of the four movements here given—viz., the inside and outside forward, and the inside and outside backward, almost any figure may be executed. Quadrilles and other dances are executed in this way, by combining figures of 8 with outside backwards, &c.; also, the following movements, viz.:—The CORNU AMMONIS, The Dutch Maze, The Fish, The Kite, the Knot, The Ball, &c. (See *fig.*)

SECT. 4. PRECAUTIONS.

If the skater is immersed in the water, the same directions may be serviceable as are given under the head of "Swimming."

TO AVOID RISKS of immersion, the skater should look out for rotten ice; but if he comes suddenly upon it, skate rapidly away from it; and if he falls from its giving way, he should crawl away on his hands and knees, in order to distribute his weight as much as possible. If he falls through, he should extend his arms across the hole and tread water till assistance is brought; not attempting to get out, or the ice will assuredly give way and let him further in



CHAPTER III.

RIDING.

Sect. 1.—The Riding Horse and its Accoutrements.

The Horse used for Riding, commonly called "a hack," is of a somewhat different description from either the hunter or the racehorse, which have been described under their several heads. Neither is the ordinary hack precisely like that called "the covert-hack," and also alluded to under the head of "Riding to Hounds." Many thoroughbred racehorses turn out good hacks, and some hunters also are active enough to answer the same purpose; but, generally speaking, this is not the case, and neither the one nor the other would come under the description of the "perfect hack." The most obvious distinction in hacks is between park-hacks and road-hacks; the former requiring only a fine form with showy action, while the latter are selected for their serviceable qualities, and must be capable of doing a distance in good time with ease to themselves and comfort to their riders.

The Park-Hack is generally what is called by the horse-dealers a "flat-catcher," that is to say, he is a showy horse with an appearance which will catch the eye, but yet really worthless, from some deficiency of constitution or infirmity of legs. There are every year some scores of useless brutes turned out of the racing-stables with legs which will not stand a preparation, in consequence of their tendency to inflame and become sore. Now these horses are often barely up to 11st., and also unfit for the hunting-field from defective hocks, or from some peculiarity of temper which prevents their taking to jump. They are often "well topped"—that is, well formed about the head, neck, and body; and to the inexperienced eye are very taking. They also often have high action, and sometimes particularly so, for the higher it is the more likely to occasion inflammation of the legs. These animals are put by, cooled down, and blistered, and are then brought out as showy hacks, for the use of gentlemen who merely require a short constitutional airing every *fine* day of an hour or an hour and a half; and, as fine days do not average above four per week, most horses even of the most infirm legs can accomplish that amount of work, *if ridden quietly over hard ground.* Many such animals are exhibited daily in Hyde Park, where the soft ground of Rotten Row exactly suits them; but there are others there also of the most perfect description, capable of standing as much work as any butcher's pony. Nevertheless, it must be admitted that the great majority of our modern good-looking hacks are incapable of doing as much work over hard ground as the coarser-bred and more common-looking brute in use among the butchers and general dealers who attend country fairs from long distances. Eastern blood is a great advantage in most respects, and no doubt when the animal possessing it is sound, he will bear the shocks of the road with impunity; but there is no question in my mind that he fails in the matter of enduring daily concussion on the road, and that a Welsh pony or Norman horse will stand nearly twice the amount of road-work without showing its effects. This is the weak point in the breed, partly arising from original want of size in the bone and joints, but chiefly, I imagine, from the constant use of stallions for inferior stock, which have themselves suffered from inflammation of the legs and its consequences; hence, in process of time, a breed of horses is formed which is more than naturally delicate about the legs, because they have really been selected from that defect, though only from necessity and not from choice. My reason for thinking that the Arab blood is not necessarily inclined to produce inflammatory joints is, that in their native country they are peculiarly free from them, although used for long distances, and that in this country those which are bred from modern Arabs are sound in their limbs, though otherwise unfit for the purpose for which they were bred. Safeguard, who is descended from the Wellesley Grey Arabian, has got most of his stock with particularly wiry legs; and I have had one of them which would stand any amount of battering without mischief, besides knowing others of the same character in other hands. Hence, I am led to conclude that the cause is not inherent in the blood, but is accidentally introduced by the use of rejected stallions for farmer's purposes. These get good-looking colts, which fetch high prices, and therefore suit the breeder's purpose just as well as the sounder horse, who would

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perhaps cost twice as much for his services. The breeder seldom tries the legs much, and it is only when put to work that the weakness is discovered, which to the eye is not by any means perceptible. From a long experience in my own case, and in that of others, I am convinced that legs cannot be selected by the appearance or feel. I do not mean to say that out of 40 horses the 20 with the best-looking legs will not beat the others, but that it is impossible for any judge, however good, to pronounce with anything like certainty whether a certain leg will stand or not, without knowing anything of the possessor of it. In so many instances have I seen a well-formed leg go to pieces directly, and a bad one stand, that I can only come to the conclusion that no certain opinion can be formed from a mere inspection. This is a great source of loss to the dealer who buys his horses after a long rest, and with the legs looking fine and sound; for even the necessary "showing out" will make many give way, and lameness ensues of a character which will not warrant a "return," yet sufficient to prevent a profitable sale. A horse sore from work is cooled down, physicked, and put into a loose box; he is then blistered, and kept without more than quiet exercise till he is to be sold, and by that time his legs are as fine as the day he was foaled. Now, I defy any one, however skilful, to detect the inherent weakness; but there it is, and on the first week's severe work the inflammation returns as bad as ever. The park-hack not requiring legs to stand severe work, his place is well filled by any horse of good temper, safe, and showy action, and of elegant form. Good temper is necessary, because as these horses are not worked hard, they speedily become unmanageable if they are naturally of a vicious disposition. Work will quiet almost any horse; but in order to have a horse pleasant to ride at all times, whether fresh or stale, he must be of a very tractable temper indeed. Many horses which will come out of the stable, when fresh, in a state of fiery and hot impatience, rearing and kicking like mad animals, will when in good work be as quiet as donkeys; and hence it is not always wise to reject one showing these qualities, nor yet is it prudent for a bad horseman to mount one without previous riding, although he may in his usual state be quiet enough. There are two bodily qualities which every hack should possess —first, a good shoulder; and, secondly, a free use of the hind-quarter. It is of no use for the fore-leg to be well raised and thrust forward, unless this action is well supported by the hind-leg. No hack is so unpleasant as the one which lifts his foot and puts it down again nearly in the same place. Here the defect is in the hind-quarter, which does not propel the body as the leg is lifted, and the consequence is the action I have noticed, in which the progress, though with a great deal of bustle, is not more than six miles an hour. At the same time, too long a stride, either in the walk, trot, or gallop, is not pleasant; and the horse which has a moderately short quick action will in most cases be preferred. All this, as in the case of the legs, cannot be surely prognosticated from the shape; and hence the dealer, who has a good mover, will always say to his customer finding fault with the looks of a horse in the stable, "See him out, sir, and you will like him;" and such is often the case. The worst-looking horse in the stable is often not only the best, but the best looking out, being quite a different animal in action. In fact, every trial should be obtained before purchase, for it is not until the rider has actually mounted that the good or bad qualities, in point of comfort, are fully developed. Some people pretend to be able to pick a hack out by the eye alone, but though in large numbers they may succeed tolerably well, yet in many cases they will be wofully deceived. The feet should always be good, and with plenty of horn; flat soles do not bear the road, nor do contracted heels, and there is no horse which requires such perfectly-formed feet as this. The hunter or racehorse may be used when he could not get along at all on the road, but the hack *must* be sound in this part, or he will be crippled on the first piece of hard ground. In height, the park hack usually ranges from 14 to 15½ hands; rarely, however, being much above 15 hands.

The Road-Hack may or may not be good-looking, but he must be able to walk, trot, and gallop in a most unexceptionable manner. The walk should, as in the park hack, be safe and pleasant, the fore-foot well lifted, and deposited on its heel, with a clean action of the hind-leg, by which it escapes "knuckling over" from being put down too soon, or "over-reaching" from the opposite extreme. Five miles an hour is the outside walking pace of a good hack, and though some will do considerably more, it is seldom by anything but a kind of shuffle, which is not pleasant to the rider, nor elegant to the spectator. The trot should be of that character, that it may be brought down to eight miles an hour, or extended to fourteen; and this is the perfection of the pace, for few horses can do

both well, being either too close to the ground in the former for safety, or too set and lofty in their action for the latter. No defect is worse than the unsafe action, which results from a weakness of the extensor muscles of the arm, and in which the action is pretty good as long as the horse is not tired, but after a few miles the leg is not lifted with power enough, and the toe is constantly striking against some inequality of the ground, from *which it is not recovered.* This marks the defect; for it must not be confounded with habitual stumbling, which is as likely to occur at starting as at any other time, and which is always easily detected by watching the mode of putting down the foot in the naturally unsafe trotter, where the toe touches the ground first, and the heel then follows, as is evidenced by the state of the tip of the shoe. Here a trip may occur often, and yet no fall occur, because the extensors are strong, and effect a recovery after the mischief has been *nearly* done. But when the extensors are weak, the toe, which has been well raised at first, after a few miles touches the ground, and *not being rapidly recovered,* a fall ensues of the most severe character. For this reason it is necessary to ride a horse some distance before his action can be pronounced upon, and only then can it be said that he is fit for a timid or bad rider. It is, I am sure, the height of absurdity to recommend this or that shape as being necessary. Hacks go in all shapes, and though oblique shoulders may be desirable, yet many a good hack is without them. Action is the *sine qua non,* united to stoutness, temper, and soundness both of wind and limb, as well as of the eyes. A horse with a thick loaded shoulder often makes a good hack, while a very thin one is seldom fit for long journeys. One point about the shoulder is very desirable—namely, the proper development of the broad part of the blade, without which there is nothing to hold back the saddle, and the rider is far too much over his horse's neck. The gallop in this kind of riding-horse is not so important as the trot and walk, but it should be true—that is to say, it should be as high before as behind; for in default of this proper balance between the fore and hind-quarter, the amount of fatigue is greatly increased. But as in the present state of our roads the gallop ought not to be persisted in for many miles, so it is of less consequence than the trot, which is, or should be, the regular pace on hard ground. The canter is not much used by gentlemen, being more fit for ladies, as it rapidly wears out the leading leg when much weight is carried. A cantering hack, therefore, is not much sought after for any but ladies' service. The hand-gallop is usually about 15 or 16 miles an hour, and the sides of the road should always be selected.

In the Mode of Procuring there is little choice, few people who use hacks having the opportunity of breeding them; nor if they had the necessary land, &c., would they find it answer. The hack is a mongrel animal, and can seldom be bred with certainty; because as now used he is an exceptional case, being nothing but an accidentally small hunter or racehorse. Hence, if a hack-mare is bred from, with the intention of rearing a hack, the chances are that she produces an animal as high as her mother, who was probably a slapping huntress. Our hacks are now all bred from the thorough-bred horse, crossed with some harness or hunting-mare, generally the latter; and, as these are now of blood consisting almost entirely of that of the thorough-bred horse, the hack is even more pure than his dam; but still a mongrel, and often with a cross of Welsh or Norman blood, which renders him hardy, but still more mongrel or impure. Purchase, therefore, is the only mode open to the intended horseman, and there are plenty of dealers throughout the kingdom where these animals may be procured, independently of the numerous fairs held in our provincial towns. A respectable dealer's stable is the best mart, and far better than a fair where no good trial can be had; and the horse being made up for a particular time can be more easily made to take in a customer. In the dealer's stable no notice is given, and he cannot be always prepared for deception. Besides, it is much more difficult to detect unsoundness of the eyes in the open air than at the stable-door; and many lame horses also are rendered for the time quite sound by constantly keeping them going up and down a fair. Spavins are particularly likely to be passed over in this way, as well as broken wind, which may be to a certain extent made up by artificial means. Buying hacks at the hammer is a complete lottery, for they may be very unpleasant to ride, although with all the appearance of going smoothly and safely. Harness horses may be bought with far more certainty in this way, but those which I am now considering require such very perfect action, that they cannot be calculated on except by a trial in the saddle. Neither can the mouth be examined with reference to the bit, although the age can be ascertained with tolerable

precision. A tender mouth is a great advantage, and its opposite as great a nuisance; yet this cannot be discovered in this mode of dealing, and therefore I should advise its adoption with great reluctance.

Sect. 2.—Accoutrements and Aids.

The Saddlery for Hacking is very similar to that described under the head of "Riding to Hounds," as also are the aids (see page 454). The whip, however, is of a different description, being either a straight whip like that used in racing, or a common short walking-stick, or a short cane with a handle, sold for the purpose. Spurs are not commonly used in hacking unless the horse is sluggish, but some are never to be depended upon without this stimulus. They are sometimes so indolent as to stumble at every few yards without the spur, but on the slightest touch they are all alive, and their action changes in a moment. With such animals the spur should always be worn, though it need seldom be used.

Sect. 3.—Mounting and Dismounting.

The Directions for these, the preliminary feats of horsemanship, are generally given as if all horses were of moderate height, and all men six feet in their stockings. Thus, Captain Richardson, in his recent contribution to this department of our sporting literature, advises as follows: "Stand opposite the near fore-foot of the horse, place the left hand on the neck near to the withers, having the back of the hand to the horse's head, and the reins lying in front of the hand. Take up the reins with the right hand, put the little finger of the left hand between them, and draw them through until you feel the mouth of the horse; turn the remainder of the reins along the inside of the left hand, let it fall over the fore-finger on the off-side, and place the thumb upon the reins. Twist a lock of the mane round the thumb or fore-finger, and close the hand firmly upon the reins. Take the stirrup in the right hand, and place the left toe in it as far as the ball; let the knee press against the flap of the saddle, to prevent the point of the toe from irritating the side of the horse; seize the cantle of the saddle with the right hand, and springing up from the right toe, throw the right leg clear over the horse, coming gently into the saddle by staying the weight of the body with the right hand resting on the right side of the pommel of the saddle; put the right toe in the stirrup." Now this is in the main applicable to a man of 5 feet 10 inches, or 6 feet, but to a shorter individual attempting to mount a horse of 15 hands 3 inches, it is an impossibility, simply because he cannot reach the cantle from the same position which enables him to hold the stirrup in the left hand. The Captain is also wrong, in my opinion, in directing that the body should be raised into the saddle directly from the ground, with one movement. This will always bring the rider down into the saddle with a very awkward jerk; and the proper direction is to raise the body straight up till both feet are on a level with the stirrup-iron, and *then* with the left leg held against the flap of the saddle by the left hand on the pommel, the right leg is easily thrown over the cantle, and the body may be kept in the first position until the horse is quiet, if he is plunging or rearing. A short man can generally place his foot in the stirrup while held in his hand, but it should be known that all cannot do this, because I have seen young riders much vexed at finding that they could not possibly do what is directed. Most of our writers on horsemanship are of the military school, and endeavour to cut every one's cloth by their own coats. They are able to do certain things easily, and so are their men, because they are mostly of the height already specified, but as sportsmen and civil equestrians are of all heights, I shall endeavour to accommodate my remarks to all heights and classes. In all cases the rider should stand at the shoulder, though with a short man it is much easier to mount a tall horse from the hind-quarter, but the danger of kicking is very great; and even in mounting with "a leg," in the jockey style, I have known the thigh very nearly broken by a kick. If the hand *can* steady the stirrup it should do so, but if the person is too short, it can be placed in the stirrup without its aid; then taking the reins between the fingers, much as directed in the passage already quoted, and grasping a lock of the mane with the finger and thumb, the body is raised till the right foot is brought to a level with the left, when the right hand seizes the cantle, and with the left grasping the pommel, the body is steadied for a short time, which, in the ordinary mount, is almost imperceptible, but in a fidgetty horse is sometimes of considerable length. The leg is now thrown gently over the saddle, and as it reaches the hand the latter is withdrawn, after which the body sinks into the saddle in an easy and graceful manner. The right foot is then placed in the stirrup, with or without the aid of the right hand holding it.

Dismounting is effected by first bringing the horse to a standstill; then shorten the left hand on the reins till it lies on the withers, with a steady feel of the mouth, twist a lock of the mane on the finger, and hold it with the reins; bearing also on the pommel with the heel of the hand. Next, throw the right foot out of the stirrup, and lift the body, steadied by the left hand, and borne by the left foot, until it is raised out of the saddle; throw gently the right leg over the cantle, and as it passes it grasp this part with the right hand; then lower the body gently to the ground by the aid of the two hands and the left foot; or if it is a very short person and a tall horse, by raising the body out of the stirrup on the hands, and dropping to the ground by their aid alone.

Mounting without Stirrups while the horse is standing still is effected as follows:—The rider stands opposite the saddle and takes hold of both the pommel and the cantle, keeping the reins in the left hand at the same time, and in the same manner as in ordinary mounting. Now spring strongly from the ground, and by means of the spring, aided by the arms, raise the body above the saddle; then twist the leg over, whilst the right hand is shifted to the right side of the pommel, and by means of both the hands the body is steadied into the saddle.

Mounting without Stirrups may, by very active men, be effected while the horse is going on, much in the same way as is seen constantly in the circus. The rider runs by the side of the horse, laying hold of the pommel of the saddle with both hands strongly, and allowing him to drag him along for two or three very long steps, he suddenly springs from the ground and is drawn into the saddle. This feat is seldom achieved by the ordinary equestrian; but it is easier than it looks, and in riding to hounds is sometimes of great service with a fidgetty horse.

Dismounting without Stirrups, requires the horse to be brought to a standstill, then holding the reins in the left hand both are placed upon the pommel, and by their aid alone the body is raised out of the saddle; the right leg is now thrown over the cantle, and in doing so the right hand seizes it, and with the left lowers the body to the ground.

Mounting and Dismounting on the off-side merely require all the movements to be reversed, and, reading left for right, and right for left, all the directions previously given are applicable. It is very useful sometimes to be able to effect this, as some horses with defective eyes will more readily allow mounting on the off-side than on the left.

Sect. 4.—Management of the Seat and Reins.

The Seat is the first thing to be settled, and it should always be fixed before anything else is done—that is, as soon as the body is placed in the saddle. There are four things necessary to be attended to—first, the position of the weight, so as to be sufficiently forward in the saddle; secondly, the fixing of the knees on the padded part of the flap; thirdly, the proper length and position of the stirrups; and fourthly, the carriage of the body. The weight of the body should be well forwards, b cause the centre of motion is close to the middle of the saddle; and as the weight is chiefly thrown upon the breech, if the seat is far back it is not in that part, but near the cantle that it is placed. But by sitting well forwards the weight is distributed between the breech, thighs, and feet; and the horse is able to rise and fall in his gallop without disturbing his rider. The knees must be well forward to effect this seat, and also well in front of the stirrup-leathers; for if they are placed behind them the body is thrown too far back, and the hold is insecure. The object of all young riders should be to get as far forward as possible, so that the knee is not off the saddle; and they can scarcely overdo this part of the lesson by any effort in their power. Riding well upon the fork, with the knees upon the padded part of the flap, will ensure a good position if the stirrups are not too short. These should be about the length which will touch the projecting ankle-bone, when the legs are placed as above directed, but out of the stirrups; and when they are placed in them, the heels should be about one inch and a half below the ball of the foot. This latter part receives the pressure of the stirrup in road-riding, but in hunting or any other kind of field-riding the foot is thrust "home" and the stirrup touches the instep, whilst the pressure is taken by the under part of the arch of the foot. The reason of this is, that in leaping the pressure on the stirrup is almost lost; and if the toe only is placed within it the foot is constantly coming out. Besides this, in the gallop the attitude is of that nature that the spring of the instep is not wanted, the weight being too much thrown upon the foot, if standing in the stirrups; and if sitting down in the saddle the feet should scarcely press

upon the stirrups at all, and therefore the best place for them is where they will be most secure. The body should be carried easily, balancing backward and forward or sideways, as required, but not forcibly. Instinct is here the best guide, and the rider should follow its precepts rather than attempt to follow any preconceived rule. If the horse rears he will feel called upon by nature to lean forward, and may even grasp the neck if needful, or anything but the bridle, which will only bring the horse back upon him. The body should not be held *stiffly* upright, but, short of this, it can scarcely be too still, the loins being slightly arched forwards. The legs also should be as motionless as possible, and nearly perpendicular from the knee downwards; but, if anything, a little forward, the heel being well depressed and the toes very slightly turned outwards. The shoulders should always be square—that is, at right angles to the road taken; and whether trotting or galloping neither of them should be advanced before the other.

THE REINS are to be taken up as soon as the seat is settled, and during that operation, with a young horseman, the horse should be held quiet by the groom, who stands on the off-side with both the snaffle-reins in his right hand; or, if the horse is very fidgetty, he may stand in front of him, with a snaffle-rein in each hand; and this almost always keeps quiet any but a thoroughly vicious horse. The groom should also hold the right stirrup for the rider to place his foot in. In gathering the reins up, they are first raised by the right hand, and then placed in the left.

THE SINGLE REIN is held by placing all but the forefinger between the reins, and then turning them over that finger towards the off-side, they are held firmly between it and the thumb. By this mode the hand has only to be opened, and the ends of the rein may be laid hold of by the right hand, to enable the left to shorten its grasp. When the hand is thus closed upon the rein, the thumb should be pointed to the horse's ears, the little finger near upon the pommel of the saddle, and the elbow close to the side, which last is a necessary consequence of the above position of the hand; so that the equestrian has only to look to this point, and see that the thumb points to the ears, with the little finger down on the pommel, and he may be quite sure that his elbow is right. When the hand is held as in the sketch here given, the elbow is almost sure to be thrown from the side, and the attitude is therefore unsightly; besides which there is less control over the mouth by the action of the wrist. With the single rein the management of the

mouth is easy enough; nevertheless, there are various directions for the purpose adopted in different schools, which are dependent upon altogether conflicting principles. Every tyro knows that the horse turns to the left by pulling the left rein, and to the right by pulling the opposite one; and the problem to be solved is to do this by one hand only. Now this in the single rein is easily effected by raising the thumb towards the right shoulder, when the right rein is to be pulled, or by drawing the little finger towards the fork for the left; in both cases by a turn of the wrist without lifting the whole hand. But over and above this action on the mouth, and in many cases independent of it, is a movement which, in trained horses, is capable of much greater delicacy, and which depends upon the sensibility of the skin of the neck for its due performance. It is effected by turning the whole hand to the right or left *without any wrist action*, so as to press the right rein against the neck, in order to cause a turn to the left, and the left rein against the neck for the opposite purpose; at the same time rather slackening the reins, so as not to bear upon the mouth by so doing. In this way a horse may be "cantered round a cabbage leaf," as the dealers say, with a much greater degree of nicety and smoothness than by acting on the corner of his mouth. But highly-broken horses, such as the military troop-horses, are often too much used to their bits to answer to this slight and delicate manipulation; and therefore it is eschewed by Captain Richardson, as well as by Colonel Greenwood, but strangely enough for opposite reasons, and each attempting to substitute a very different process for it. I am well aware that some can never be taught it, but must always have the bearing on the mouth before they will turn; yet when it can be taught, it makes

the animal so tractable and agreeable to ride that it is a highly desirable accomplishment; and I cannot therefore join in condemning its use, but should rejoice if it could in all cases be fully developed.

THE DOUBLE-REIN is held in two ways, but the best, in my opinion, is as follows:—First take up the snaffle-rein, and place it as before, except that the left rein is to be between the ring and middle fingers; then raise the curb-rein, and hook it on to the little finger, where it may be either left for use when wanted, or at once drawn over the fore-finger to the proper degree of tightness, and pressed down upon it by the thumb; in which case the reins should all fall over the off-side of the horse. By this mode the curb-rein is always at the command of the right hand, and it may be shortened or let out in a moment, which is of constant occurrence in every day's ride. The hand is held as before, with the thumb pointing to the horse's ears; in turning, however, there is much less power of bearing on either side of the bit by raising the thumb or lowering the little finger, because the distance between the snaffle-reins is only half what it was, and therefore the mode of turning by pressure upon the neck is doubly desirable; and hence its constant adoption in all cases where double-reined bridles are used, as in the field and on the road. Sometimes, to obviate this objection, the snaffle-reins are placed as in the single-reined bridle, outside the little finger, and then the curb is hooked over the ring-finger, between the snaffle-reins, so as to allow of the full manipulation of the mouth by the hand, without bearing upon the neck. But the objection to this is that the curb cannot be shortened without releasing the snaffle, and therefore the horse must either be ridden on the curb alone whilst this process is being effected, or his head must be loosed altogether, whereas in the other mode his mouth is still under the control of the snaffle all the time that the curb is being let out or taken in.

SECT. 5.—THE ORDINARY PACES.

THE WALK is a perfectly natural pace to the horse, but it is somewhat altered by use, being quicker and smarter than before breaking, and with the hind-legs more brought under the body in the perfect hack. In this pace the head should not be too much confined, and yet the rider should not entirely leave it uncontrolled; the finest possible touch is enough, so that on any trip the hand is at once informed of it by the drop of the head, when, by a sudden jerk of the bridle, not too forcible, it rouses the horse, and prevents his falling. It is not that he is kept up by pulling the rein, but that he is roused by it and made to exert himself, for many horses seem regardless of falls, and would be down twenty times a-day if they were not stimulated by the heel and bit. Confinement of the head in the walk is absolutely injurious, and more frequently causes a fall than saves one. A good walker will go on nodding his head to each step, more or less as it is a long or a short one; and if this nodding is prevented by the heavy hand of the rider, the fore-foot is not properly stretched forward, the step is crippled, and very often the toe strikes the ground; when, if the head were at liberty, it would clear it well. In horses which are apt to stumble on the walk, I have generally found that a loose rein, with the curb held ready for a check, is the safest plan; and then the horse soon finds that he is punished the moment he stumbles, and in a very short time he learns to recover himself almost before he is reminded. I do not like the spur or the whip so well, because the use of either makes the horse spring forward, and often blunder again in his hurry to avoid this kind of punishment. The check of the curb, on the other hand, makes him recover himself without extra progress, or rather by partially stopping him, and thus he is better able to avoid his fall. The body is allowed to yield slightly to the motions of the horse, but not to waddle from side to side, as is sometimes seen. Some horses do not stir the rider at all, while others throw him about and fatigue him greatly; and this may generally be foretold when the tail sways much from side to side in the walk, which is caused by the over-long stride of the horse, a very desirable accomplishment in the racehorse or hunter, but not in the hack.

THE TROT is altogether an acquired pace, and in the natural state it is never seen for more than a few yards at a time. In it the fore and hind-legs of opposite sides move together, and are taken up and put down exactly at the same moment.

TO START A HORSE IN THE TROT, take hold of both the reins of the snaffle, and bear firmly, but steadily, upon the mouth, lean slightly forwards in the saddle, press the legs against the horse's sides, and use the peculiar click of the tongue, which serves as an encouragement to the horse on all occasions. If properly broken, he will now fall at once into the trot, but if he breaks into a canter or gallop, he must be

checked, and restrained into a walk, or a very slow trot, called a "jog-trot." In some cases, a horse can canter as slow as he walks, and here there is often great difficulty in making him trot, for no restraint, short of a total halt, will prevent the canter. In such cases, laying hold of an ear will often succeed, by making the animal drop his head, which movement interferes with the canter, and generally leads to a trot.

RISING IN THE STIRRUPS with the trot is generally practised in civil life, as being far less fatiguing to both horse and rider, but in the military schools the opposite style is inculcated, because among a troop of horse it has a very bad effect, when a number of men are bobbing up and down, out of all time. If it were possible for all to rise together, perhaps the offence against military precision might be pardoned; but as horses will not all step together, so the men cannot all rise at the same moment, and the consequence is that they are doomed to bump upon the sheep-skins in a very tiresome manner, fatiguing alike to man and horse. The civilian's mode is as follows:—At the precise moment when the hind and fore-legs are making their effort to throw the horse forward in progression, the body of the rider if thrown forcibly into the air, in some horses to so great an extent as to make a young rider feel as if he never should come down again. After reaching the utmost height, however, the body falls, and reaches the saddle just in time to catch the next effort, and so on as long as the trot lasts. In this way the horse absolutely carries no weight at all during half his time, and the action and reaction are of such a nature that the trot is accelerated rather than retarded by the weight. No horse can fairly trot above 12 or 13 miles an hour without this rising, though he may run or pace in the American style, so that it is not only to save the rider's bones, but also to ease the horse that this practice has been introduced, and has held its ground in spite of the want of military sanction. It is here as with the seat, utility is sacrificed to appearances; and whenever the long and weak seat of the barrack-yard supplants the firm seat of the civilian, I shall expect to see the rising in the trot abandoned, but certainly not till then. The military length is not now what is was 30 years ago; and perhaps some time or other they may adopt the rise, but I am afraid not until they have produced many thousands more sore backs than they need have done if they had never adopted it. In the trot, the foot should bear strongly on the stirrup, with the heel well down, and the ball of the foot pressing on the foot-piece of the stirrup, so that the elasticity of the ankle takes off the jar, and prevents the double rise, which in some rough horses is very apt to be produced. The knees should always be maintained exactly in the same place, without that shifting motion which is so common with bad riders, and the legs should be held perpendicularly from the knee downwards. The chest well forward, the waist in, and the rise nearly upright, but slightly forward, and as easily as can be effected, without effort on the part of the rider, and rather restraining than adding to the throw of the horse.

THE MILITARY STYLE, without rising, is effected by leaving the body as much as possible to find its own level. The knees should not cling to the saddle, the foot should not press forcibly upon the stirrup, and the hands should not bear upon the bridle. By attending to these negative directions, the rider has only to lean very slightly back from the perpendicular, and preserve his balance, when practice will do all the rest.

THE CANTER is even more than the trot an unnatural and artificial pace. It can very seldom be taught without setting a horse much upon his haunches, and very rarely indeed without the use of the curb-rein. It is a pace in which all the legs are lifted and set down one after the other in the most methodical manner; the near or off fore-leg leading off, as the case may be, but one foot being always in contact with the ground.

TO START THE CANTER WITH EITHER LEG, it is necessary to pull the opposite rein, and press the opposite heel. The reason of this is obvious enough; every horse in starting to canter (and many even in the canter itself), turns himself slightly across his line of progress, in order to enable him to lead with that leg which he thereby advances. Thus, supposing a horse is going to lead off with the off fore-leg, he turns his head to the left and his croup to to the right, and then easily gets his off-leg before, and his near leg behind into the line which is being taken. Now, to compel him to repeat this action, it is only necessary to turn him in the same way, by pulling his head to the left, and by touching him with the left heel, after which he is made to canter by exciting him with the voice or whip, whilst at the same moment he is restrained by the curb. When once this lead is commenced, the hold on the curb and pressure on the legs may be quite equal; but if, while the canter is main-

tained, it is desired to change the leading leg, the horse must be collected and roused by the bit and voice, and then reversing the pull of the reins and the leg-pressure from that previously practised, so as to turn the horse in the opposite way to that in which he was started, he will generally be compelled to change his lead, which is called "changing his leg."

THE SEAT FOR THE CANTER is a very easy one, the knees taking a very gentle hold of the saddle, the feet not bearing strongly upon the stirrups, and the body tolerably upright in the saddle. The hands must not be too low in this pace, but should keep a very gentle but constant pressure upon the bit, and should, if there is the slightest tendency to drop the canter, rouse the mouth by a very slight reminder, and also stimulate the fears by the voice or whip.

THE GALLOP is the most natural of all paces, being seen in all horses while at liberty, from the Shetland and dray-horse to the pure bred racehorse. It is a succession of leaps, and differs from the canter in one important feature, which separates the one pace from the other. In the description of the latter pace I have said that one foot is always in contact with the ground, whilst in the gallop, whether fast or slow, there is always an interval in which the whole animal is suspended in the air, without touching the ground. Hence, it is not true that the canter is a slow gallop, nor is the gallop a fast canter; but the two are totally distinct paces, as different as walking and running in the human subject. There is, however, the same variation in the leading leg, and the same mode of compelling the lead of one particular leg, as well as of causing the change of lead, though it is much more difficult to effect these objects in the faster pace than in the slower one.

THE PROPER SEAT IN THE GALLOP is either to sit down in the saddle or to stand in the stirrups, according to circumstances. The former is the usual seat, and it is only in racing or in the very fast gallop at other times that the latter is adopted. In sitting down, the feet may be either resting on the ball of the toe, as in the other paces, or with the stirrup "home" to the boot, as is common in all field-riding. The body is thrown easily, and slightly back, the knees take firm hold, the rider being careful not to grip so tight as to distress the horse, which fault I have known very muscular men often commit. The hands should be low, with sufficient pull at the mouth to restrain him, but not to annoy and make him "fight"; and if he is inclined to get his head down too much or the reverse, they must be raised or lowered accordingly. When the standing in the stirrups is to be practised, the weight is thrown upon them, steadying it with the knees, which should keep firm hold of the saddle-flaps. The seat of the body is carried well back, while at the same time the loin is thrown forwards; but by this combined action the weight is not hanging over the shoulder of the horse, as it would be, and often is, when the breech is raised from the saddle and brought almost over the pommel, with the eyes of the rider looking down his horse's forehead, or very nearly so. If a jockey with a good seat is watched, it will be seen that his leg does not descend straight from the knee, but that it is slightly thrown back from that line, and consequently that his centre of gravity is behind it, so that he can, by stiffening the joint, carry his body as far behind it as his stirrup is, without ceasing to stand in it. This seat cannot long be maintained without fatigue to the rider, and it is only adopted in racing or in short gallops over bad ground, as in hunting, when there is a deep piece of fallow, or a steep hill, or any other kind of ground calculated to tire the horse.

THE VARIETIES OF THE GALLOP are the hand-gallop, the three-quarter gallop, and the full gallop, which is capable of still further extension in the "racing set-to." They are, however, modifications of the same pace, varying only in the velocity with which they are carried out.

SECT. 6.—EXTRAORDINARY MOVEMENTS.

Besides the paces of the horse which are required for his use by man, there are also certain movements very commonly met with, but by no means desirable, and others which are taught him for man's extraordinary purposes; the former are called vices, the latter are more or less the result of the *manège*, or breaking school. The vices are —first, stumbling; secondly, cutting and rearing; thirdly, shying; fourthly, kicking; fifthly, plunging; sixthly, lying down; seventhly, shouldering; and eighthly, running away. The *managed* actions are backing, passaging, &c.

STUMBLING is caused by defective muscular action in all cases, though there is no doubt that in many horses this defect is aggravated by lameness, either of the feet or legs, or from defective shoeing. Some horses can never be ridden in safety for

many miles, although they will "show out" with very good action; and this is caused by the muscles which raise and extend the leg tiring very rapidly, after which the ground is not cleared by the toe, and when it is struck *there is not power to recover* from the mistake. Many careless and low goers are constantly striking their feet against stones, but having strong extensors they draw their feet clear of the obstacle, and easily recover themselves; whilst those which are differently furnished, although they strike with less force, yet they have no power to help themselves, and therefore the fall. The one kind may be kept on their legs by constant rousing and severity, but the weak ones are never safe. In the stumbling from lameness or soreness, the most humane course, as well as the safest, is either to dismount and lead the horse or to keep him alive by the use of the whip or spur. Humanity taking a middle course by riding quietly is sure to lick the dust, and the plan should never be attempted. But there are many kinds of careless stumbling, one arises from the toe touching although well thrown over; but the knee-action being low, the foot is not cleared. This is not a very dangerous kind, and is generally recovered from. The next is from the foot being put down too far back, and too much on the toe, so that the pastern, instead of settling into its proper place behind the perpendicular of the foot, "knuckles over" in front, and so causes the leg to lose its power of sustaining the weight. Here the horse does not generally fall unless the other leg follows suit; but it is a very unpleasant accident, and if a horse is liable to it he is never to be considered safe. Such animals are very deceptive to the young and inexperienced, because they generally lift their knees high, and lead to the supposition that they are safe and good goers. But if they are watched they will be seen to put their feet down behind a perpendicular line, drawn from the front of their knees; and when that is the case the kind of stumbling here alluded to is always to be expected. There is also the stumbling from putting the foot on a rolling stone, which gives way at the moment of bearing the weight, and thus throws the horse off his balance; so as to occasion him to make a mistake with the other leg, which will be greater or less according to his good or bad action. Lastly, there is a stumble resulting from tender soles or frogs, in which the feet being placed upon a sharp stone, so much pain is occasioned that the knee is allowed to give way, and the same effect is produced as in the accident caused by a rolling stone, but often in a much more marked degree.

THE REMEDY FOR STUMBLING will, in all cases, depend upon the cause. If this is from weakness, no care or good riding will prevent a stumble, though it may avert an absolute fall by taking care to sit well back, and to be on the guard against being pulled over the shoulder in case of a serious mistake. There is no use in holding a horse hard in such a case; he should be kept alive but not hurried, because the more tired he is the more likely he is to come down. Great judgment, therefore, will be necessary to "nurse him" to his journey's end; and this will be best done by an occasional relief to his back and walking by his side. No one should ride such a horse habitually; but if, unfortunately, he finds himself on him, and some miles from home, the above is the best course to pursue. When, however, the stumbling is from decided laziness, the only course is to catch hold of the horse's head and use the whip or spur, or both, pretty severely. Many horses are quite safe at their top speed on the trot, but at a half-trot they are never to be trusted. The experienced horseman readily detects the exact pace which his horse can do with the greatest ease and safety, and keeps him to that. Some can trot down hill safely, but are always tripping on level ground (these are low-actioned horses, with pretty good shoulders); others, again, always trip going down hill from over-shooting themselves; and of course each must be ridden accordingly. When lameness is the cause of failure, the remedy is either to have the shoe taken off and rectified, if that is the cause, or if in the joints, ligaments, or sinews, to give rest, and adopt the proper remedies.

CUTTING is caused by the horse touching one leg with the other shoe or foot, and it may be either of the ankle or pastern joint, or of the inside of the leg, or just below the knee, which last is called the speedy cut. It arises from the legs being set on slightly awry, so that the action is not straightforward; and this is aggravated by weakness or want of condition, so that a horse often cuts when poor, though he is quite free from the vice when high in flesh. The cutting may be either of the fore or hind-leg.

The remedy is either to alter the shoeing, or to apply a boot.

REARING is a coltish trick which is generally lost as the horse grows older; it is not nearly so common now as it used to be, and a bad rearer is not often seen. When in an aggravated form it is a frightful vice,

and with an inexperienced rider may be attended with fatal mischief. In slight cases it consists in the horse simply rising a little before and then dropping again, as if from play only; but in the worst form it is a systematic attempt to throw the rider, and sometimes the horse goes so far as to throw himself back as well.

THE REMEDY of this vice is the martingale, which may either be used with rings running on the snaffle-rein, or attached directly to that bit by the ordinary billet and buckle; or, again, by means of a running-rein, which commences from the breast-strap of the martingale, and then running through the ring of the snaffle with a pulley-like action it is brought back to the hand, and it may thus be tightened or relaxed according to circumstances, so as to bring the horse's head absolutely down to his brisket, or, on the other hand, to give it entire liberty without dismounting. It is a very good plan with an experienced horseman, but its use should not be attempted by any other. With a determined brute nothing short of this last kind will prevent rearing; and even it will fail in some cases, for there are some horses which rear with their heads between their forelegs. Nevertheless, happily, they are rare exceptions, and with the majority the martingale in some form is efficacious. It should never be put on the curb-rein with rearers, and indeed a curb is seldom to be used at all with horses addicted to that vice; they are always made worse by the slightest touch of the bit, and unless they are very much inclined to run away, it is far better to trust to a straight bit or plain snaffle, which by not irritating the mouth will often induce them to go pleasantly, whereas a more severe bit would tempt them to show their temper by rearing. Breaking a bottle of water between the ears, or a severe blow in the same part, may in some cases be tried, but the continued use of the martingale will generally suffice. There is also a mode of curing rearers sometimes attempted, by letting them rise, and then slipping off on one side and pulling them back; but it is a dangerous feat for both horse and rider, and has often led to a broken back on the part of the horse, as well as sometimes to severe injury to the rider. It is scarcely necessary to remark that the rider should in all cases lean well forward, and relax the bridle while the horse is in the air.

SHYING is sometimes the effect of fear, and sometimes of vice; and there are many horses which begin by the former and end with the latter, in consequence of mismanagement. The young colt is almost always more or less shy, especially if he is brought at once from the retired fields where he was reared to the streets of a busy town. There are, however, numberless varieties of shyers, some being dreadfully alarmed by one kind of object, which to another is not at all formidable. When a horse finds that he gains his object by turning round, he will often repeat the turning without cause, pretending to be alarmed, and looking out for excuses for it. This is not at all uncommon, and with timid riders leads to a discontinuance of the ride, by which the horse gains his end for the time, and repeats the trick on the first occasion. In genuine shying from fear the eyes are generally more or less defective; but sometimes this is not the cause, which is founded upon a general irritability of the nervous system. Thus, there are many which never shy at meeting waggons, or other similar objects, but which almost drop with fear on a small bird flying out of a hedge, or any other startling sound. These are also worse, because they give no notice, whereas the ordinary shyer almost always shows by his ears that he is prepared to turn.

FOR SHYERS the only remedy is to take as little notice as possible, to make light of the occurrence, speak encouragingly, yet rather severely, *and to get them by the object somehow or other.* If needful, the *aid* of the spur and whip may be called in, but not as a *punishment.* If the horse can be urged by the object at which he is shying without the whip or spur so much the better, but if not he must be compelled to do so by their use. Whenever fear is the cause of shying, punishment only adds to that fear; but where vice has supplanted fear, severity should be used to correct it. As a general rule the whip never need be used, unless the horse turns absolutely round; and not then unless there is reason to suspect that he is pretending fear. If only he will go by the object, even with "a wide berth," as the sailors say, he may be suffered to go on his way unpunished; and nothing is so bad as the absurd severity which some horsemen exercise after the horse has conquered his reluctance, and passed the object. At this time he should be praised and patted, with all the encouragement which can be given; and on no account should he be taught to make those rushes which we so commonly see on the road, from the improper use of the whip and spur. If punishment is necessary at all it must be used beforehand; but it often

happens that the rider cannot spare his whip-hand until the shying is over; and then, in his passion, he does not reflect that the time is gone by for his employment.

KICKING is a very unpleasant vice either in the saddle or in harness, but it is not so dangerous in the former as in the latter; its nature is too well known to need description. It is often the result of play, but quite as frequently it arises from a vicious desire to get rid of the rider.

THE PROPER MODE of treating a kicker is to catch fast hold of the head, and keep it well up, and then to use the whip down the shoulder severely. If the head is not well in hand, he will often kick the more, but if the head is kept up while the blow is given, he will generally desist. A gag-snaffle is very useful with confirmed kickers, as it serves to keep the head up better than any other bit.

PLUNGING consists in a series of bounds or springs, by which the horse evidently hopes to relieve himself of his burden. His back is generally rounded, and very often he will "buck," or jump off the ground perpendicularly, by which a weak rider is sure to be unseated.

THE REMEDY is to sit still, and keep the head confined, though not too closely. Very often plunging is followed by a fit of kicking, for which the rider should be prepared. If there is reason to expect that a horse will commence this trick, a cloth, rolled like a soldier's cloak, and buckled to the front of the saddle, is a great assistance, and will often save a fall when the seat is not very good.

LYING DOWN is a vice which only Welsh ponies, and other obstinate brutes, indulge in, and it is seldom met with in English-bred horses. The spur will sometimes keep them up, but in bad cases there is no remedy but submission.

SHOULDERING is also a trick only met with among badly-bred horses, though sometimes horses of all breeds, if they have been badly broken, will adopt this expedient, by attempting to crush the knee against a wall or paling. If, however, the hand and foot are put strongly out, the horse cannot use enough lateral pressure to overcome their resistance, and no harm is done.

RUNNING AWAY is only an extreme form of pulling in the gallop, but sometimes it is of a most vicious description, and the horse gallops as if maddened by excitement. It is a most dangerous vice, as it is generally practised at times when it is most inconvenient, as in crowded thoroughfares, &c.

FOR HORSES WHICH RUN AWAY various severe bits have been invented, but nothing has ever yet been introduced which is so successful as the Bucephalus nose-band, to which I have already alluded at page 455. It is a good plan in determined brutes to make them gallop to a standstill, by giving them an up-hill burster, which may generally be managed though there are some which are only made worse by this treatment. Still it generally succeeds, and most horses are rendered quiet for some time by such an effort; nevertheless, they generally try again as soon as they are fresh, and they are seldom to be trusted with any riders but good horsemen. It is of no use to pull dead at these animals, but it is better to let them go when there is plenty of room, and then to try what a sharp and severe pull will do; not keeping it up too long if ineffectual, but loosing the mouth again for a time, and then trying again. Sometimes, however, there is no room for this, and then the only plan is to try and bring the head round, only with a view of galloping in a circle, or to run the head against a fence or even a wall or strong gate. Sometimes anything is better than a straight course—as, for instance, into a crowded thoroughfare, where there would be an almost positive certainty of mischief; and in such a case it is better to do anything than to persevere in the course which the runaway is taking. Here the horse must be pulled into anything which will stop him, such as a thick hedge or a park wall, or any similar insurmountable obstacle; and all risks must be run of damaging him, or even his rider, who will however generally escape with slight bruises if the horse is run full tilt against the object, and not too obliquely, which will not at all answer the purpose.

BACKING is necessary for all horses to be taught, though not so often required in riding as in harness-horses. It is always one of the first things drilled into the colt by his breaker, and the finished and broken horse will, as a matter of course, readily obey the hand of the rider, when he gently draws him back. The pull should not be harder than the particular mouth requires, some horses being easily irritated by too severe a confinement of the mouth. If a horse obstinately refuses to stir, the bit may be gently "sawed" from side to side, which seldom fails to make him stir. When backing is adopted by the horse with vicious intentions, and contrary to the will

of his master, it is called "jibbing," and is a most unmanageable trick, for which the best remedy is patience. Punishment never answers, and the horse only jibs the more; but by quietly waiting until he is tired, the animal will generally give up the fight, and continue his progress in the desired direction.

PASSAGING is a feat of horsemanship never used in this country except in the military schools. It is the action of the horse by which he moves sideways, using the two legs of each side at a time, and following them up, advancing them to the right or left by bringing the other two up to them.

SECT 7.—THE RIDE.

THE RIDE is the putting into practice all the directions which have already been given. When the orders have been issued for a horse to be prepared, he is brought to the door ready saddled and bridled. It is the groom's duty to place the saddle properly on; but it is as well that the master should know how and where to put it on. The common direction is to put the saddle "one hand's breadth behind the shoulder-blade," but this is too far back, and few saddles will remain there; it is far better to place it at once where it fits than to give it room to come forward, because the girths only become more slack as it shifts, and allow it to press still more forward than it otherwise would; whereas, if it had been first placed where it soon travelled forwards, the girths would have kept tight, and it would have moved no further. A better rule is to place the saddle where it fits, taking care to have it as far back as it *will* fit. The bridle should be put on, with the bit neither too high nor too low in the mouth, and with the throat-lash of the proper tightness, which points can only be learnt from experience. After leaving the stable and, if the weather is fine, walking the horse about for a few minutes, the girths will generally require tightening, which the groom should see to. When the horse is to be mounted, the rider, if he cannot fully depend upon his groom, should see to his girths, and that his bridle is properly put on, with the curb of the right degree of tightness, if he uses a double-reined bridle. As soon as this is settled, the groom brings the horse up to the door, holding it with the left hand by the snaffle-reins, and bearing upon the off-stirrup to resist the weight, if the rider is a heavy man, which will prevent the saddle from twisting. The rider then mounts according to the directions given at page 607, and puts his horse into a walk, which should always be the pace for the commencement of a ride for pleasure. He may in this pace, as I have already explained, give his horse considerable liberty of the head, and he will have no difficulty in turning him to the right or left, either by the use of one hand or both, or by bearing upon the neck according to the mode to which the horse has been broken. After a short distance he may practise the various paces, and if he is inclined to learn to ride well, he may at times throw the stirrups across the saddle, and attempt to canter without them. In learning to ride without stirrups, it is a very good plan to have the inside of the trowsers lined with a strip of black leather, in the French fashion, which takes a good grip of the saddle; for with cloth trousers and a smoothly polished saddle there is very little hold to be obtained, and the balance alone must preserve the seat. With this addition all the paces may soon be mastered without the aid of the stirrups; but the trot will be the last, of necessity, because it is by far the most difficult. No rise can now be managed, and the body must be suffered to take its chance upon the saddle, leaning back to rather more than the perpendicular position, and not attempting to do more than keep the balance. When riding without stirrups, the feet should be carried in the same position as if they were being used, the heel being carefully depressed, and the toes raised by the muscular power of the leg.

FOR DIRECTIONS APPLICABLE TO LEAPING, see the chapter on "Riding to Hounds."

SECT. 8.—FEMALE HORSEMANSHIP.

THE SADDLERY for the use of ladies is similar in *principle* to that devoted to the gentlemen's riding, with the exception that the bits and reins of the bridle are lighter and more ornamental, and the saddle furnished with crutches for side-riding. The reins are narrower than those used by gentlemen, but otherwise the same. Until lately they were rounded, and the nose-band fringed, but all ornament is now (1866) out of fashion. The side-saddle should be carefully fitted to the horse, and there should always be a third crutch, the use of which will hereafter be explained. There is an extra leather girth, which keeps the flaps of the saddle in their places. The stirrup may either be like a man's, with a lining of leather or velvet, or it may be a slipper, which is safer, and also easier to

the foot. The lady's whip is a light affair; but as her horse ought seldom to require punishment, it is carried more to threaten, than to give, punishment. A spur *may* be added for a lady's use, and for those who hunt; it is sometimes needful for the purpose of giving a stimulus at the right moment. If used, it is buckled on to the boot, and a small opening is made in the habit, with a string attached to the inside, which is then tied round the ankle, and thus keeps the spur always projecting beyond the folds of the habit. A nose-martingale is generally added for ornament; but no horse which throws his head up is fit for a lady's use.

THE LADY'S HORSE ought to be the most perfect of hacks, instead of being, as he often is, a useless brute, fit only to be shot. Many men think that any horse gifted with a neat outline will carry a lady, but it is a great mistake; and if the ladies themselves had the choice of horses they would soon decide to the contrary. The only thing in their favour in choosing a lady's horse is that the weight to be carried is generally light, and therefore a horse calculated to carry them is seldom fit to mount a man, because the weight of the male sex is generally so much above that of an equestrian lady. Few of this sex who ride are above 9st., and most are below that weight; and a horse which will be well up to 10st., including the saddle, will not be able even to waddle under 12st. or upwards. But in point of soundness, action, mouth, and temper, the lady's hack should be unimpeachable; and these are the points that constitute a perfect hack for either sex. Again, a gentleman's hack may be good, yet wholly unable to canter, and so formed that he cannot be taught; he, therefore, is unsuited to a lady; but, on the other hand, every lady's horse should do all his paces well. Many ladies, it is true, never trot; but they should not be furnished with the excuse that they cannot, because their horses will not. In size the lady's horse should be about 15 hands, or from 14½ to 15½; less than this allows the habit to trail in the dirt, and more makes the horse too lofty and unwieldy for a lady's use.

IN BREAKING THE LADY'S HORSE, if he is of good temper and fine mouth, little need be done but to make him canter easily, and with the right leg foremost. This is necessary, because the other leg is uncomfortable to the rider, from her side position on the saddle; the breaker, therefore, should adopt the means already described, and persevere until the horse is quite accustomed to the pace, and habitually starts off with the right leg. He should also bend him thoroughly, so as to make him canter well on his hind-legs, and not with the disunited action which one so often sees. The curb must be used for this purpose, but without bearing too strongly upon it; the horse must be brought to his paces by fine handling rather than by force, and by occasional pressure, which he will yield to and play with if allowed, rather than by a dead pull. In this way, by taking advantage of every inch yielded, and yet not going too far, the head is gradually brought in, and the hind-legs as gradually are thrust forward, so as instinctively to steady the mouth, and prevent the pressure which is feared. When this "setting on the haunches" is accomplished, a horse-cloth may be strapped on the near side of the saddle, to accustom him to the flapping of the habit; but I have always found, in an ordinarily good-tempered horse, that if the paces and mouth were all perfect the habit is sure to be borne. It is a kind of excuse which gentlemen are too apt to make, that their horses have never carried a lady; but if they will carry a gentleman quietly, they will always carry a lady in the same style, though that may not perhaps be suitable to her seat or hands.

THE DIRECTIONS FOR HOLDING THE REINS, and for their use, already given, apply equally well to ladies; the only difference being that the knee prevents the hand being lowered to the pommel of the saddle. This is one reason why the neck requires to be more bent than for the gentleman's use, because if it is straight, or at all ewe-necked, the hands being high raise the head into the air, and make the horse more of a "star-gazer" than he otherwise would be. Many ladies hold the reins as in driving, the directions for which are given in the next chapter. It is in some respects better, because it allows the hand to be held lower than in the gentleman's mode, and the ends of the reins fall better over the habit, but it does not allow of the wrist motion necessary for the use of one hand only.

IN MOUNTING, the horse is brought to the door by the groom, and held steadily, as for a gentleman's use, taking care to keep him well up to the place where the lady stands, from which he is very apt to sidle away. The gentleman-assistant then places his right hand on his right knee, or a little below it, and receives the lady's left foot. Previously to this, she should have taken the rein in her right hand, which is

placed on the middle crutch; then, with her left on the gentleman's shoulder, and her foot in his hand, she makes a spring from the ground, and immediately stiffens her left leg, using his hand, steadied by his knee, as a second foundation for a spring; and then she is easily lifted to her saddle by the hand following and finishing her spring with what little force is required. As she rises, the hand still keeps hold of the crutch, which throws the body sideways on the saddle, and she then lifts her right knee over the middle crutch. After this she lifts herself up from the saddle, and the gentleman draws her habit from under her until smooth; he then places her left foot in the stirrup, including with it a fold of her habit, and she is finally seated, and should take her reins, and use them as directed for the gentleman at page 609. The great mistake which is constantly made in mounting is in the use of the lady's knee, which should be carefully straightened the moment it can be effected; for if kept bent it requires great power to lift a lady into the saddle, whereas with a good spring and a straight knee she ought to weigh but a very few pounds in the hand.

THE LADY'S SEAT is very commonly supposed to be a weak one, and to depend entirely upon balance, but this is the greatest possible mistake; and there can be no doubt, from what is seen in private as well as in the circus, that it requires as great an effort of the horse to dislodge a good female rider as to produce the same effect upon a gentleman. Even with the old single crutch there was a good hold with the leg, but now that the third is added, the grip is really a firm one. When this is not used, the crutch is laid hold of by the right leg, and pinched between the calf of the leg and the thigh, so as to afford a firm and steady hold for the whole body, especially when aided by the stirrup. But this latter support merely preserves the balance, and is useful also in trotting; it does not at all give a firm steady seat, though it adds to one already obtained by the knee. When two crutches are used, the leg is not brought back so far as to grasp the crutch as before, but between the two knees the two crutches are firmly laid hold of, the upper one being under the right knee, and the lower one above the left. The right knee hooked over the crutch keeps the body from slipping backwards, whilst the left keeps it from a forward motion, and thus the proper position is maintained. In all cases the right foot should be kept back, and the point of the toe should scarcely be visible. These points should be carefully kept in view by all lady riders, and they should learn as soon as possible to steady themselves by this grasp of the crutches, without reference to the stirrup-iron. In spite of her side-seat, the body should be square to the front, with the elbow easily bent, and preserved in its proper position by the same precaution, with regard to the thumb, as in the case of her male companion, already minutely described in page 609. The whip is generally held in the right hand, with the lash pointing forwards, and towards the left, and by this position it may be used on any part of the horse's body, by reaching over to the left, and cutting before or behind the saddle, or with great ease on the right side. Its use may, therefore, in all cases be substituted for the pressure of the leg in the description of the modes of effecting the change of leg, turning to the left or right, or leading with either leg. With this substitution, and with the caution against all violent attempts at coercion, which are better carried out by the fine hand and delicate tact of the lady, all the feats which man can perform may well be imitated by her.

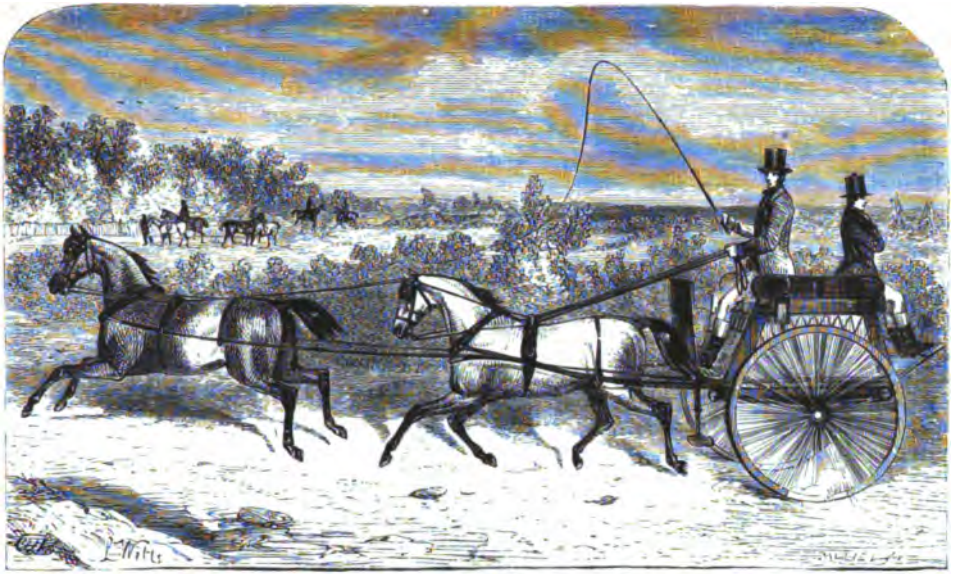
IN DISMOUNTING the horse is brought to a dead stop, and his head held by an assistant; the lady then turns her knee back again from the position between the outside crutch, takes her foot out of the stirrup, and sits completely sideways; she then puts her left hand upon the gentleman's shoulder, who places his right arm round her waist, and lightly assists her to the ground.

CHAPTER IV.

DRIVING.

SECT. 1.—VARIETIES OF CARRIAGES.

CARRIAGES used for pleasure, as distinguished from stage and hired carriages, are of numerous kinds, and have received an immense number of distinguishing names,



DRIVING TANDEM, IN GOING TO COVERT. P. 618.

some of which are only in vogue during a short reign, while others are long favourites of the driving public. The chief division is fourfold—first, two-wheeled open carriages; secondly, two-wheeled headed carriages; thirdly, four-wheeled open carriages; fourthly, four-wheeled close carriages.

Two-wheeled Open Carriages used by private parties are—the dog-cart, the Dennet gig, the Tilbury, the inside and outside Irish car.

In the Dog-Cart, the body of which is more or less square, with two seats back to back, there is a large boot capable of taking dogs or luggage, and hence its general usefulness in the country. The springs are generally a single long side-spring, and the shafts are usually of lance-wood. They are made to shift the balance in case of their being used by two persons only, for which purpose various contrivances are adopted. (See engraving of Tandem.)

In the Dennet, or Stanhope gig—which latter is now almost exploded on account of its weight, and its so severely trying the back and legs of the horse—there is only room for two persons. The seat is generally rounded at the angles, and either railed or panelled; and the boot is plain and small as compared with the dog-cart. In the peculiar principle first introduced by Fuller, of Bath, the shafts are of lance-wood often combined with whalebone, and the knee-motion derived from the horse is almost totally got rid of. Upon this depends the comfort of all two-wheeled vehicles, and especially where two persons only are accommodated; for in many old-fashioned Dennets the motion was worse than any high trotting horse. The shaft is tapered at the back-end and attached to a cross-spring, so that the fulcrum at the drawing-bar is in the centre of two long springs—one between it and the horse's pad, the other between it and the back of the gig; and as they play easily, the two fixed points at the fulcrum and the back remain stationary. When properly balanced, this gig ought not to press upon the horse's back on level ground more than a few ounces, or just sufficient to prevent its bearing back, and thus straining the belly-band, and fretting the horse in that way.

The Tilbury is a gig of a totally different construction, and being suspended upon leather braces, its motion is much softer than the Dennet; but what it gains in this respect it loses in knee-motion, which is very considerable. There is no boot, but a skeleton body is attached to a plated and therefore rigid shaft, by means of a spring projecting in front, and attached by a brace, and another projecting behind suspended to a cross-spring by a long leather brace. This cross-spring is raised from the cross-bar at the back of the shafts by iron stays in a T-like form; and it was supposed when it was first invented that the leather brace would allow of the shaft moving with the horse without influencing the gig. This hypothesis was, however, not found to be consistent with the fact, as the Tilbury is found to receive a most uncomfortable motion from the horse, and to communicate it to the rider; and no plan has yet been discovered by which this can be remedied. By settling the cross-spring well back, and thus straining the braces apart, some improvement is effected; but it is still a very uneasy gig as compared with Fuller's Dennet, which has maintained its superiority for the last 25 years, although hard pressed by the cheap substitutes which have been extensively adopted in its place, in the shape of dog-carts, &c.

In the Irish Car the passengers are placed opposite one another in the inside

Fig. 1.

The Cabriolet.

car, and back to back in the outside variety, but in both cases sideways as regards the line of progress. They were formerly a good deal used in this country, but are now almost entirely superseded by the various dog-carts. Besides the above two-wheeled carriages there are several varieties of the dog-cart, as the Whitechapel, the Malvern, the Croydon basket-cart, &c.

THE TWO-WHEELED HEADED CARRIAGES consist of the cabriolet (*fig.* 1), the Hansom's cab, the Duobus, the Nottingham cottage cart, and the headed Dennet.

THE CABRIOLET is a very handsome vehicle, but it is very heavy, both in actual weight and in draught; and also very severe upon the horse's back and legs. It consists of a peculiarly shaped body (see *fig.*), with a wooden knee-boot, incapable therefore of being folded up, and consequently very hot in summer; the head will let down if desired; the springs are somewhat similar in principle to those of the Tilbury, except that they are of the C shape instead of the T. This vehicle is not well suited for country use, but for town work there is nothing so well adapted for those who usually drive themselves. A board is placed behind for the groom to stand upon, and his weight materially diminishes the knee-motion inside. Cabriolets cannot well be built under 7½ to 8 cwt., and most of them weigh 9 cwt.

THE HANSOM CAB is generally a street vehicle, but sometimes it is adapted to private use, and makes a most comfortable one for professional men or for bachelors, though I cannot see in what it is superior to the Brougham. In a moderately hilly country, I know from experience, that it is beaten by any light four-wheeled carriage, because it distresses the horse in going up hill or down. It consists of a roomy, cab-shaped body, of peculiar construction, which must be familiar to all, and with the seat for the driver behind, so that he drives over the head of his master. In consequence of the high wheels which can be employed, these vehicles run very light on level ground, and they are much liked on account of the speed with which the horse can get along. They are on Dennet springs, and with plated ash shafts; but, as they are very evenly balanced, there is no knee-motion.

THE DUOBUS is a mere slice of an omnibus placed upon two wheels, and is an awkward and troublesome carriage in every respect. It is entered behind, and the driver sits on one side. These also are on Dennet springs; and with lancewood shafts they may be rendered free from knee-motion.

THE NOTTINGHAM COTTAGE CART, as brought out by Mr. Starey, is a very useful vehicle for the sportsman of limited means, who wishes an occasional close carriage for evening work or wet weather. It is well adapted for ordinary use, exactly like a roomy dog-cart; but it opens upwards behind to form a head, and downwards to make a footboard, so that the two hind-seats are completely under cover. I can speak fully as to its merits and demerits, being really the inventor of it, as I had one built from my own designs in the spring of the year 1851, and used it fully two years before the Nottingham cart was brought out, on a plan precisely similar to mine. Whatever merit, therefore, may belong to the invention is clearly mine; and I really believe it is a very serviceable cart for the purpose above specified. The only drawback is that the wheels throw the dirt in behind, and unless the wheather is cold enough to allow of its being shut up closely, it is a very troublesome fault indeed. The same applies to dusty roads, in which condition this cart is absolutely stifling; but, as I said before, for night work, or as a defence against rain, it is very useful; and it will on ordinary occasions hold several dogs, either for shooting or coursing. Mr. Starey's pattern is not quite so roomy as mine, but his will hold, I should say, two brace of pointers or setters very well. It may be seen at the Crystal Palace at Sydenham.

THE HEADED DENNET is a very uncomfortable kind of close carriage, because the head is obliged to be made very high and shallow; the wind, therefore, beats the rain in very much, and it is not nearly so good a protection as a gig-umbrella, which may be made a very tolerable protection from rain.

OPEN FOUR-WHEELED CARRIAGES consist of the britschka (*fig.* 2), the barouche, the various phaetons, and the sociable.

THE BRITSCHKA AND THE BAROUCHE may be considered together, as they are alike in springs and general principle, though different in the shape of the body. In the former (see *fig.* 2) this is straight at the lower edge (called the rocker), and with a very low driving-box, it being generally used for travelling post. In the latter the rocker is boat-like, and the coach-box is raised considerably above the level of the inside seats. Both have a single head behind, and a knee-boot in front, which either turns down and protects the inside

passengers' legs, or when turned back (as in *fig.* 2), it serves to protect the two who ride with their backs to the horses. The britschka generally has a rumble behind, but the barouche is not often supplied with that appendage. Both are on C springs, with elliptic springs under; and both have a perch, as shown in *fig.* 2.

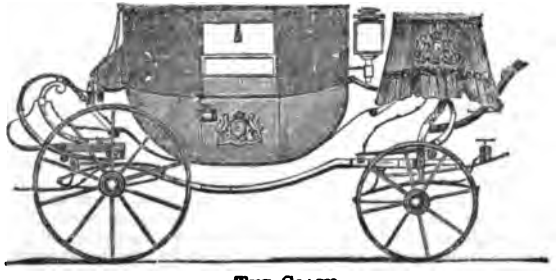
Fig. 2.

THE BRITSCHKA.

THE VARIOUS PHAETONS, including the Sociable, are difficult to define, but they are generally distinguished by the absence of the C springs and perch. They have almost always elliptic springs, similar in principle to those shown under the C springs in *fig.* 2, but lighter in make, sometimes, however, as in the Mail Phaeton, they have them of a different construction, there being four springs behind and three before, constituting in the first case a square, and in the second three sides of that figure, these are attached, as in the Stanhope, behind, and, like the Dennet, before; but that they generally have leather braces instead of iron shackles. There is also a perch in the regular Mail Phaeton, which is, however, sometimes dispensed with in the smaller kinds built in the same general form, but with elliptic springs, and then called Stanhope Phaetons—*lucus a non lucendo*, that is, because they have dispensed with Stanhope springs. This is a curious exemplification of the *non sequitur*, and the strongest with which I am acquainted; for it really is the fact, that the phaeton with the Stanhope springs is called a Mail Phaeton, and without them a Stanhope Phaeton. The bodies of these phaetons are of every form which can be contrived to accommodate four or six persons, and they rejoice in distinguishing names almost without end, as, the Pilentum, the Cab-bodied, the Sociable (now very fashionable), the George IV., the Albert, the Stanhope, the Four-wheeled Dog-Cart, &c. &c.

FOUR-WHEELED CLOSE CARRIAGES are much less numerous, and are soon summed

Fig. 3.



THE COACH.

up under the following short list:—first, the Family Coach; second, the Chariot; third, the Clarence; fourth, the Brougham. It is true that there are infinite variations made in each of the above, but very slight as compared with the previously-described carriages.

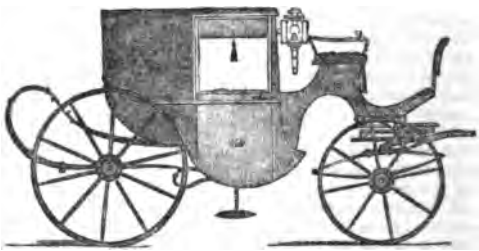
THE COACH (see *fig.* 3) has the same C and under-springs as the britschka, with the perch also. It is, however, completely covered in, having only a single glass on each side, capable of being raised or lowered. In the engraving here given, a hammer-cloth is added to the coach-box; but this is only used in London, and is seldom adopted in the country. When this kind of carriage is made to open, with leather sides and top, instead of painted and varnished panels, it is called a LANDAU, but this is a kind of carriage now very seldom met with.

THE CHARIOT is similar in all respects to the coach, except that it only holds two, and has glasses in front as well as on the sides. This carriage, when made to open, is called a LANDAULET.

THE CLARENCE has a light body, to hold four, but placed on elliptic or grasshopper springs, and without a perch. It is much lighter in every way than the coach, but neither so easy nor so free from noise. From its lightness it is still much used in the country, but in London it is now becoming again supplanted by the carriages with C springs.

THE BROUGHAM is to the Clarence what the chariot is to the coach, but some Broughams are so made as to hold four people, and are then called round-fronted Broughams. These carriages were first brought into use by the celebrated Lord Chancellor of the same name, from whom they have received their distinguishing title. Their great advantage is, that they may tolerably well be used with one horse, which to many people is a great object. Of late a spring (as shown in *fig.* 4) has been invented, by which the C spring is introduced without the perch, which is generally connected with that soft and yielding kind of spring. This is said to remedy the great defect of these carriages, namely, their peculiar hum to the ear of the inside traveller, which becomes very distressing after a time, and to avoid it small chariots have been for some years built with light iron perches. Their weight, however, is nearly double that of an ordinary Brougham, and they are quite beyond the powers of one horse for more than a very short drive. I have never myself tried the spring as given in *fig.* 4, but it appears to me to be a very useful mode of doing away with some part of the jar and noise incidental to the Brougham; nevertheless, that connected with the fore-spring must still remain; and, consequently, I am afraid the object is only in part attained; but, as I before remarked, I have not put the matter to the test by actual experiment.

Fig. 4.



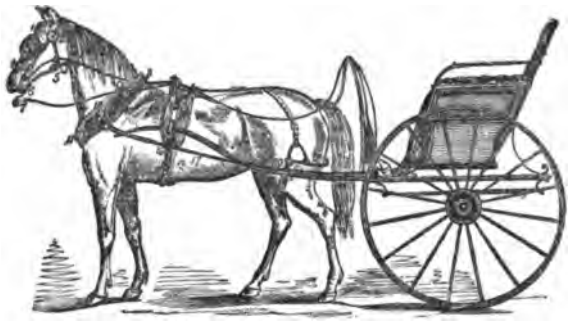
NEW BROUGHAM.

SECT. 2.—HARNESS.

HARNESS is differently constructed, according to the purpose for which it is intended. Thus there are the following—viz., gig harness, phaeton harness, chariot harness, tandem harness, and four-horse harness, according as each variety is intended for the purpose of being attached to the kind of carriage prefixed to the general title.

GIG HARNESS, which is equally suitable for single horse phaetons, or, in fact, for any single work, consists of three portions—first, the drawing part; secondly the part for holding the shafts of the gig up and

back; and thirdly, that for guiding the horse. The DRAWING PART consists of the COLLAR (10) which is an oval ring padded to fit the shoulders, or of a BREAST STRAP, being merely a broad and padded strap, crossing in front of the shoulder parts. If the collar is used, two iron bars, called HAMES (12), are buckled on each side by means of a leather strap at top and bottom, called a HAME STRAP (8, 11), which passes through an eye at the end of each hame, and is afterwards drawn tight and buckled. Towards the top of each hame is a ring, called the HAME TERRET (9), for the reins to pass through; and a little below the middle there is an arm, with a metal eye, to which the TUG of the trace is attached (13). This tug, again, is stitched into a double piece of leather which is attached to the buckle for the TRACE (17). This last is simply a long



DENNET GIG AND HARNESS.

double leather strap, attached at one end to the above buckle, and at the other by an eye to the drawing bar of the gig. The supporting and backing part consists of the PAD OR SADDLE (14), somewhat similar in principle to the riding saddle, but much narrower and lighter. This has two rings for the reins, called the TERRETS, and a hook for the bearing rein, all at the top. It is fastened to the horse by a BELLY-BAND (15), and at the back of it there is an eye for the crupper, which is a leather strap from it to the tail, round the root of which it passes, and thus holds the pad from pressing forwards. Through the middle of the pad passes a strong leather strap, called the BACK-BAND, which is attached to a buckle and strong loop on each side, called the SHAFT TUG (16), by which the shaft is supported, and also kept back from pressing upon the horse's quarters, in which latter office it is sometimes assisted by a leather strap passing round these parts at 18, and buckled on each side at 19, either to the shaft or to its tug, and called the BREECHEN. The part for guiding the horse consists of the BRIDLE and the REINS, the former being made up of two CHEEK-PIECES and WINKERS (3), a THROAT-LASH (5), a NOSE-BAND (4), a FACE-STRAP, a FRONT-PIECE (1), and a HEAD-PIECE (2). The cheek-pieces are buckled to the BIT, which is generally a strong curb, but sometimes only a DOUBLE-RINGED SNAFFLE, now very commonly used in driving. The REINS (7), are merely long and narrow strips of leather passing from the bit through the hame and pad-terrets to the driver's hand. BEARING-REINS are additional reins attached to bridoon bits, and passing through ear-rings on or near the throat-lash to the hook on the pad. They are, however, now seldom used in single harness; but are shown in the annexed plan. Where the bearing-rein is not used a long ear-ring is now sometimes suspended from the head of the bridle, through which the driving-rein passes, and by which the horse is prevented from getting the rein under the point of the shaft, an accident which is very annoying to those who leave their horses standing about with their servants.

PHAETON AND CHARIOT HARNESS are both made on the same principle, differing only in lightness both of leather and ornament, the former being altogether much less heavy than the latter. Double harness consists, like single harness, of three essential parts; but as there is no shaft to be supported, the pad is much lighter and more simple. The

drawing part is similar to that already described, except that the lower eyes of the hames are permanently connected by an oval ring of metal, upon the lower part of which a ring freely travels, to which the pole-piece of the carriage is buckled, and by which it is backed. The trace-buckles also, are opposite the pad, and supported from it by a light strap, called the TRACE-BEARER. The traces themselves either end with an eye, or, with a full fold upon themselves, with an iron eye, called a ROLLER, and intended to be used upon the ROLLER-BOLT of the splinter-bar. The PAD is very light, and has no back-band; sometimes a long BREECHEN runs to the trace-buckle; but for light harness a mere supporting strap for the traces, called a HIP-STRAP, is all that is used. The BRIDLE is nearly the same as for single harness, except that there are no ornaments on that side which is towards the pole. The REINS have, in addition to the single rein which is attached to the outside of each horse's bit, another called a COUPLING-REIN, which has a buckle towards the driver running upon the driving-rein, so that it may be taken up or let out at pleasure. These coupling-reins are attached to the inside of the bit of the opposite horse, crossing one another after they have been passed through both the pad and hame-terrets, so that the off-driving rein, with its coupling-rein, pulls the off-side of the bits of each horse, and the near-reins both the near-sides. In double harness, bearing-reins may or may not be used, but they are generally included in its purchase.

TANDEM HARNESS consists of a single harness for the horse in the shafts, called the "wheeler," with the addition only of double terrets on the pad, for the leader's reins to pass through, and also of a double ear-ring for the same purpose. The leader has harness of the same description as the light phaeton double harness, except that both sides of the bridle are alike, and that the traces are about six feet longer than for ordinary work. They have a swivel-hook, by which they are attached either to the points of the shafts or to the wheeler's trace-buckles, where the shafts have no eyes for the purpose. (See sketch of Tandem.)

FOUR-HORSE HARNESS consists of that for the wheelers, like chariot harness, with double terrets, and one on the head-piece instead of the ear-ring. The leaders have the same as the tandem leaders harness, except that when they are driven "four-in-hand" their traces are shorter, and they end in eyes or hooks, by which they are attached to "serving-bars" that are suspended to a hook at the end of the pole.

WHIPS vary in size and length, from the small light and stout whip of a pony phaeton to the four-in-hand whip with a lash long enough to reach the leader's head.

SECT. 3.—HARNESS HORSES.

HARNESS HORSES are either ponies, gig horses, Brougham horses, or coach horses; being gradually larger and heavier from one end to the other of the line, which begins at the size of a small pony and extends up to the carriage horse of 17 hands. Ponies are met with all over England, Ireland, and Scotland, and are of various breeds; some of which are of wonderful powers of endurance, with good symmetry and action, and with never-failing legs and feet. In general soundness they far excel the larger varieties of the horse, for which there is no accounting, as they are much more neglected and frequently very ill-used. A broken-winded pony, or a roarer, is a very uncommon sight, and even a lame one is by no means an everyday occurrence. There is every reason to believe that the Arab blood has been largely diffused among the ponies of our heaths and forests; and their neat heads and great powers of endurance, together with the small size of their bones, would warrant the assumption. Among the Welsh ponies there is a strong cross of the Norman horse, and they have many of them the dark mark down the back which is peculiar to that breed, together with the hardiness of constitution inherent in it. Gigsters of all kinds are the refuse of the hunting-stock or of the racing-stud; those which are too clumsy and slow for those purposes being put to harness. Some are good trotters and yet bad gallopers, and they are consequently as well fitted for harness work as they are unsuited for hunting. A great number of gigsters are also under-sized carriage horses, which last are the produce of Cleveland or Clydesdale mares by well-bred or even thorough-bred horses. Until lately the Cleveland mare was almost the sole origin, on the dam's side, of our best carriage horses; but latterly the Clydesdale mare has been very extensively used, and with much better success; inasmuch as the produce are much more hardy, and though, perhaps, not quite so level, yet more blood-like, and their legs and feet much more firm and enduring. This is, I believe, the best cross in the world for general harness work, and it will beat the Cleveland breed in every respect. Mr. Apperley first recommended the adoption of

the cross direct between the Cleveland mare and the thorough-bred horse, and his name and authority have kept up the practice ever since; but it is now at last discovered that as far as legs go they are an unprofitable sort, and that they stand road-work almost worse than any others, except an *unsound* racehorse. I am in great hopes that the Clydesdale mare will turn out a very much better substitute; and that her produce will not only be useful as carriage horses, but as the dams of three-quarters and seven-eighths-bred road horses and hunters. There is a fine roomy frame to go upon, with great ragged hips, flat clean legs, and *good heads*, and with tempers which are fit to be taught anything. The constitution also is good, and in every respect this breed appears to me calculated for the purpose I am now discussing; and from the numerous good specimens I have seen resulting from the first cross, I am induced to hope that the expectations of those who have adopted it will be fully realized.

Sect. 4.—Harnessing and Putting-to.

Harnessing.—In all cases the first thing to be done, after the horse is dressed, is to put on the collar, which is effected by turning the horse round in his stall, and slipping it over his head, with the large end upwards. This inversion is required because the front of the head is the widest part, and in this way is adapted to the widest part of the collar, which, even with this arrangement, will in coarsely-bred horses hardly pass over the cheek-bones. Before the collar is put in its place, the hames are put on and buckled; for if this was delayed until after it had been reversed, they would have to be held on while the hame straps were being drawn together, whereas in this way their own weight keeps them in place. They are now reversed altogether, and the pad put in its place; before buckling the belly-band of which, the crupper is slipped over the tail by doubling up all the hair, and grasping it carefully in the left hand while the right adapts the crupper. A careful examination should always be made that no hairs are left under it, for if they are they irritate the skin, and often cause a fit of kicking. After the crupper is set right the pad is drawn forwards, and its belly-band buckled up pretty tightly; the bridle is now put on, and the curb-chain properly applied; the reins being slipped through the terrets and buckled on both sides, if for single harness, or on the outside only if for double, and the driving rein folded back and tied in the pad terret.

Putting-to is managed very differently, according to whether the horse is going in shafts or with a pole. If for shafts, they are tilted up and held there by one person, while the other backs the horse until he is under them, when they are dropped down, and the tugs slipped under or over the ends of the shafts, according to the formation of the tugs, some being hooks, and others merely leather loops. Care must be taken that they do not slip beyond the pins on the shafts. The traces are now attached to the drawing-bar, the breechen or kicking-strap buckled, and the false belly-band buckled up pretty tightly, so as to keep the shafts steady. In four-wheeled carriages it should be left tolerably loose when a breechen is used, to allow of this having free play. The reins are now untwisted from the terret, and the horse is put to. For double harness, the first thing is to bring the horse round by the side of the pole, and put the pole-piece through the sliding ring of the hames, the groom holding it, or else buckling it at the longest hole while the traces are being put to; as soon as this is done the pole-piece is buckled up to its proper length, each coupling-rein buckled to the opposite horse's bit, the driving-reins untwisted from the terret, and the two buckled together, and the horses are ready. The leaders of a tandem or four-in-hand are easily attached, and their reins are passed through the rings on the head of the wheelers, and through the upper half of the pad terret.

Unharnessing is exactly the reverse of the above, everything being undone exactly in the same order in which it was done. The chief errors in either are—in double harness, in not attaching the pole-piece at once in putting to, or in unbuckling it altogether too soon, by which the horse is at liberty to get back upon the bars, and often does considerable damage by kicking.

Sect. 5.—Breaking to Harness.

For Double-harness Work, a double-break and break horse only are required to effect this object, and a very short time will generally suffice to make a young horse manageable, if driven with a steady companion, and by a careful pair of hands. It is some time before he would be fit for a timid lady, but for country work with those who are not alarmed by an occasional slight freak, after a week or ten days, a horse may safely be used. The first thing to be done is to put the harness on, and allow it to remain

for an hour or two during the two or three days before the horse is driven. Previously to this, he should be thoroughly broken to the saddle, because he will not otherwise know the use of the bit, and without that he will be entirely unmanageable. It was formerly a very common practice to break carriage horses at plough, by putting them in the middle of a team, and letting them jump and kick till they were tired; but this is a bad plan, and many horses have been spoiled both in limb and temper by it. Curbs and spavins are very commonly caused by the struggles of a high-couraged horse; and jibbing will often ensue as a consequence in a bad-tempered or sluggish one. The hot blood derived from the Eastern horse leads these colts to plunge and fight against restraint, in a very different way from the dull and phlegmatic cart horse; and, therefore, the plan is now discarded in favour of the break, where the colt has the power of moving forward, to some extent, in all his plunges, if any, and his blood is not unnecessarily roused by resistance. After he has been made accustomed to the harness, he is put in with the break horse, an animal of great size, power, and steadiness. The break horse should first be put to, and the break brought out into a tolerably open place, where it may start on level ground, or with a very slight ascent. The break is built very strongly, and should have the space between the drawing bar and the front axletree made up with iron rods, so that if a horse kicks over the bar his legs do not fall, but he draws them back again at once. The bar should be padded, to prevent him damaging himself in his violence, if he plunges and kicks as some will do. The colt should have a well-fitting collar on, and it should be previously well oiled, to prevent its fretting the skin; he should also have a common rope halter on, with the end tied loosely to his hame terret, so that the breaksman can lay hold of it, and draw him towards him, without touching his mouth. When all is ready, and the two horses are put together, with the driver on the box, the break horse is gently touched with the whip, and takes the break off very quietly, the breaksman walking by the side, and encouraging the colt. Generally speaking, he walks off as quietly as possible, or he may make a bounce or two, but at first he does not seem to recognise his fetters; after a while, however, he will often plunge more or less, and, perhaps, if viciously inclined, begin to kick. The break should be steadily driven off, and kept going for an hour, or rather more, but not much longer, as the shoulders are very apt to be galled by a persistence beyond that time. This lesson is repeated every day, until the horse learns to turn and hold back; and it is astonishing how soon a good-tempered horse takes to his new work. Knee-caps should in all cases be put on, to prevent blemishes, in case of any accidents.

For Single Work, every horse should first be put in double harness, and driven at least five or six times. It is not generally at first that vice shows itself, and frequently not until the fourth or fifth lesson, when the driver begins to try what the colt is made of by giving him a short gallop, with a stroke or two of the whip. And until this has been done no one can foretel what the colt will do under provocation, which is sure to come some time or other. When, however, this has been tried, and the colt will turn to either side, stop, and back, as well as throw himself into his breechen in going down-hill, he may safely be put into single harness, though at the same time with great care. Some horses are at all times quiet in double harness, and yet will never go in single harness, of which I have had several specimens. I once had a most inveterate kicker in single harness, which would go as quietly as possible in double; and I have had several bad jibbers which never showed that tendency for some time after breaking. When the horse is first put in single harness it should be in a break expressly made with strong and stout shafts, and high enough to prevent his kicking over; though some horses are able to kick over anything, and no kicking-strap will hold them down. A safety-rein should be added, buckled on to the lower bar of the bit, and passed through a ring on the tug and by the side of the dashboard up to the hand, where it may be held ready for use in case of the horse attempting to bolt. For ordinary use the rein should be put to the cheek, so as to be as little irksome to the horse as possible, and no bearing-rein should on any account be used. With these precautions, and with the aid of a breaksman and a liberal quantity of patience, most horses may be broken-in. When there is a great resistance to the breaking to single harness, or a tendency to jib or run away, a stout shaft may be furnished with a projecting bar of iron, and an outrigger applied to the splinter-bar, by which a second bar is fixed; and then a break horse may be attached outside the shafts, and thus the colt is then compelled

to go on or stop by the power of the steady and trained horse. In this mode the reins are applied as for pair-horse driving, and it is a very excellent way of breaking unruly horses; indeed, I have known it succeed when all other means had failed in an obstinate kicker; but only, however, for a time, as the vice showed itself nearly as bad as ever after a time.

Sect. 6.—Driving.

Driving a Single Horse is a very simple process, and requires only a good hand and eye. The reins are held differently from riding, the near rein passing over the fore-finger, and the off between it and the middle finger; and then through the hand, descending from the palm by the side of the knees. The thumb keeps the near rein firmly against the fore-finger, and I have always found it a good plan to pass both reins out of the hand between the little and ring-fingers, so that without keeping the thumb very firmly fixed, they do not slip through the fingers when the horse makes a mistake. This has saved me many an accident, because when a person is tired with driving many miles, and the attention flags, a horse, in making a mistake, is not checked till it is too late, in consequence of the thumb and fore-finger suffering the rein to slip some inches before it is held firmly between them; but when passing through an additional pair of fingers, and making an angle in order to do this, it is astonishing how firmly the reins are held, and yet with how much less fatigue to the hand. The bearing-rein is now almost totally out of use in single harness, where it is no more needed than for riding, because the driver has even more command of the mouth than if he were in the saddle. There is no doubt that a bearing-rein is better than a careless driver; but with ordinary care the horse is saved by a slight check, which does not keep him up, *but makes him keep himself up.* This he is partly prevented from doing from the confinement of the head, caused by the bearing-rein; and, therefore, although it is useful in driving the horse to hold the head up, it is injurious to an equal extent by confining him from that quick exertion of his powers which might save him from a fall. It is true, that many old horses which have been used to lean upon the bearing-rein cannot be safely driven without; but in most of those which have never been accustomed to its use, it may safely be dispensed with. I have had some few which never could be trusted without a bearing rein, even though broken-in carefully for me; but this was from defective action, and from that straight-necked form which is almost sure to lead to a heavy hanging upon the bit. It is astonishing how seldom one sees a London cab-horse down now as compared with former years when this rein was in general use, and yet these horses are quite as hard-worked as ever, and often with scarcely one good leg out of the four. But with their heads at liberty, and only a double-ringed snaffle, they rarely make a mistake; or, if they do, they are almost sure to save themselves from it. Too tight a rein is quite as bad as holding it too loose, and a gagged horse will be so confined in his action as to be always making mistakes. The head should have a tolerable degree of liberty, the mouth just feeling the hand, so as in a good mouth to lead to that playing with the bit which is the perfection of breaking and driving. By this I mean that tendency to keep within the bit and to avoid its pressure which a fine mouth will always show; and yet when there is high courage, a constant desire to press forward as soon as the hand is at all relaxed; up a steep hill, the head should have entire liberty, while down-hill the hand should be shortened upon the rein, and, with his knees straight and the feet well out, the driver should be prepared for a mistake, and ready to assist if it is made, not by violently dragging at the head, but by checking sufficiently without gagging the horse. The mere avoiding of other vehicles in meeting or passing is too simple an affair to require minute description.

In Driving a Pair, the great art consists in the putting them together so as to draw equally, and to step together. To do this well, the horses must match in action and temper, two slugs being much better than a free-tempered horse with a slug; because in this case the whip applied to the one only makes the other more free, and as a consequence it is impossible to make them draw equally. In some cases where two horses are exactly equally matched, the coupling-reins must both be of equal length; but this is seldom the case; and when they do not do an equal amount of work, the coupling-rein of the free one must be taken up, and that of the idle horse let out. In watching the working of the two horses the pole-pieces should always be the guide; and if both are slack, with the end of the pole steady, and neither horse shouldering it, the driver may rest contented that his horses are each doing their share; if, however, the pole is shouldered by either, that horse is a rogue, and is making the other

do more than his share, keeping the pole straight by the pressure of his shoulder, instead of pulling at the traces. On the other hand, if either horse is pulling away from the pole, and straining at the pole-piece, he is doing more than his share, and his coupling-rein must be taken in accordingly. Sometimes both shoulder the pole, or spread from it, which are equally unsightly habits, and may generally be cured by an alteration of the coupling-reins of both horses, letting them out for shouldering, and taking them in for its opposite bad habit. The reins are held in the same way for double-harness as for single. Bearing-reins are more necessary here than in single harness, because there is not the same immediate command of a horse; but in tolerably active and safe-goers there is little necessity for them; it is only when horses stand about much that they are wanted, and then only for display; but for this, they certainly are of service, as the horse stands in a very proud and handsome attitude when "borne up," and the pair match much better than when they are suffered to stand at ease. In driving a pair, it should always be remembered that there are two methods of driving round a curve, one by pulling the inside rein, and the other by hitting the outside horse; and these two should generally be combined, graduating the use of the whip by the thinness of the skin of the horse. In all cases the whip is required in double harness, if not to drive horses when thoroughly put together, yet to make them pull equally; and there are very few pairs which do not occasionally want a little reminding of their duties. A constant change from one side to the other is a prevention of those tricks and bad habits which horses get into if they are alway kept to one side only. The coachman should, therefore, change them every now and then, and back again, so as to make what was a puller from the pole rather bear towards it than otherwise when put on the other side.

VARIOUS DEVICES are used by old hands for curing vice in harness horses. The kicking-strap in single harness is merely a strap over the croup, buckled down to the shafts; and in double harness a somewhat similar plan is adopted, but of little use as compared with that used in single harness. Besides these, there are side-reins, martingales, and a variety of other schemes invented; but every one who is likely to want them has is own peculiar ideas on the subject, and it will be unnecessary for me to go into a description of them.

SECT. 7.—COST OF CARRIAGES AND HARNESS.

CARRIAGES are variously priced by town and country builders, and also by different tradesmen in London, &c.; their prices range as follows:—

	£	£
Close carriages, with C springs, from	250	to 500
Close carriages, with elliptic springs, from	100	to 180
Open carriages, with C springs, from	150	to 200
Open carriages, with elliptic springs, from	120	to 140
Pony phaetons, from	30	to 40
Two-wheeled cabriolets, from .	80	to 100
Two-wheeled gigs, without head, from	40	to 60
Two-wheeled gigs, with head, from	50	to 70
Dog-cart, from	20	to 60
Double-chariot harness, from .	20	to 40
Single harness, from	8	to 12
Pony harness, from	5	to 8

HUMAN SKELETON. *Fig.* 1.

SKELETON OF THE GREYHOUND. *Fig.* 2. P. 629.

PART IV.

NATURAL HISTORY OF THE PRINCIPAL ANIMALS USED BY MAN IN RURAL SPORTS.

BOOK I.—COMPARATIVE ANATOMY OF MAN, THE HORSE, AND DOG.

CHAP. I.
GENERAL VIEW OF THE DIVISION, VERTEBRATA, TO WHICH THESE ANIMALS BELONG.

Sect. 1.—Their Position in the Scale of Creation.

Man himself, together with the horse and the dog, and even the hawk and the decoy-duck, which are the only animals used by him in the capture of the objects of his sport, are all included under the general division Vertebrata. These are distinguished by the possession of an articulated skeleton within their bodies, and by a *vertebral column*, containing the most important parts of their nervous system. With the exception of the birds, all the others are included in the class Mammalia, so named because they give suck to their young by means of the mamma. The three species, however, are widely separated in the division, man taking the head of all in a distinct subdivision, and separated from the Carnivora, among which the dog is included, by the apes and monkeys. Between the dog, again, and the horse, there intervene the whole of the cetaceous animals and the glires; the horse belonging to the lowest tribe of the mammalia, namely, the Ungulata, or those having hoofs. Between these three there will be found to be considerable points of difference in each of the systems of which their frames are composed; all three, however, have a skeleton consisting of the same materials, and containing within its cavities a nervous, a circulatory, a respiratory, a digestive, and a reproductive system. All have the same organs of sense, though differently endowed; and in all the parts of the skeleton are connected together by ligaments forming joints, and moved upon each other by muscles of various forms. The chief differences are—first, in the volume and form of the brain; secondly, in the nature and form of the stomach and intestines; and, thirdly, in the form of the organs of locomotion.

Sect. 2.—The Nervous System.

The Nervous System, upon the development of which each animal depends for its position in the scale of creation, is, in the main, the same in the three animals now under consideration. In man, however, it is much more developed in those parts upon which the extent and powers of the mental manifestations and sense of touch are dependent; whilst, in the dog, another part is carried to an exquisite degree of refinement; namely, the nerves in which resides the sense of smell. But in all three there are the same grand portions to be met with, consisting of a mass of highly-complicated nervous matter contained within the skull, called *the brain*, and which is the organ of the mind, as well as, in all probability, the seat of the instincts of the animal. Extending from this is a part called the *medulla oblongata*, connecting it with the spinal column, which is chiefly a large bundle of nerves extended between the brain and all the parts of the body below the head, and gradually separating into its component parts as it passes through the bones of the spine. It receives the mandates of the will from the brain, and conveys back to it the state and wants of the various organs of the body. But, besides these two parts of the nervous system, there are also two others; the first consists of a tract of nervous matter contained within the spinal cord, and intended to supply the organs of respiration, and to keep them in some measure independent of the brain during its sleep, or pressure from accident; and also to affect an action of a very peculiar kind called *reflex*, by which, in certain cases, muscular contractions are produced by a shorter and quicker process than would be afforded by a transmission of the intelligence to the brain

itself, and a consequent mandate from it. The second comprises a chain of little brains lying in front of the spine, and within the chest and abdomen, and intended to supply the digestive apparatus and circulating system with nervous influence (whatever that may be), independently of the brain and spinal cord, although these also send their nerves to them. Thus, the most important organs of all have their separate supplies, by which provision is made against accident; and, in case of its occurrence, one part being enabled to do duty for two. In this way the whole nervous system is divided into—first, the brain; secondly, the medulla oblongata and spinal cord; thirdly, the general nerves of motion and sensation; fourthly, the special nerves of respiration; fifthly, the nerves of the viscera, commonly called the sympathetic system; and, sixthly, the special nerves of the senses derived from the brain itself. In all these animals the nervous system consists of two parts; the grey, in which power is generated, and the white, through which it is transmitted. The grey constitutes the greater part of the exterior of the brain and the interior of the spinal column, whilst the white makes up the interior and central parts of the brain, the exterior of the spinal cord, and the bulk of the nerves of the body.

THE VARIATIONS in these several parts are the following:—In man the brain is much the most voluminous, especially in the anterior part, which is the chief organ of the mind. Here the grey matter is very much convoluted, and thereby rendered more extensive in quantity and in surface, by which his general mental powers are augmented. Next to him in this respect comes the dog, who has sometimes tolerably deep fissures in his brain, and consequently a more extended surface than usual; but in all cases much more so than in the horse, whose brain is, as compared to his whole body, very much less than the dog's, and still more diminished in proportion as compared to that of man. In the dog, however, and especially in those whose powers of smelling are much developed, the anterior lobes, in which the nerves of smelling take their rise, are largely increased in size, and nearly as much so in the horse, who, like all animals dependent upon this sense for their safety in selecting food, has considerable acuteness of smell. In other respects the nervous systems of the three are closely allied, and the description which will serve for the one will also suit the others, except in the minute detail of parts.

SECT. 3.—THE SKELETON.

In all three the skeleton consists of the same parts, though the bones composing them vary in number, and to some extent in form. (See skeleton of Man, Dog, and Horse, *figs.* 1, 2, and 3, in which the letters attached to *fig.* 1 apply also to the corresponding parts in *figs.* 2 and 3.) It is divided into two portions—one forming cavities for containing the vital organs, and protecting them from danger; and the other consisting of central supports adapted to the purposes of locomotion, by offering levers to be worked by the various muscles. The bony cavities are—first, the cranium and spinal column; secondly, the thorax or chest attached to the middle of the spine; and, thirdly, the pelvis, terminating it. The bony organs of locomotion are the four extremities of the body.

THE CRANIUM OR SKULL, is variously formed in the three species under consideration; but it consists in all three of the same number of bones, eleven of which combine together to form a hollow case for the brain, whilst six of these eleven, together with the upper and lower jaw-bones, the bones of the nose, and the cheek-bones, constitute the face. In this part they are developed into several cavities, two of which are called the orbits, and contain the eyes; two, close together, form the nostrils; one between the upper and lower jaw-bones, the mouth; and one on each side for the ears, which last part also contains four little delicate bones for communicating the vibrations of the air to the nerve of hearing. In the jaws, also, there are fixed two rows of teeth, the upper and the under, which vary considerably; but in each there are three kinds—viz.: first, the incisors, being more or less cutting nippers, and placed in front; secondly, the canine, pointed, and intended for holding or tearing; and thirdly, the molars, for grinding. The formula, as it is called, for each, is as follows:—

IN MAN.

Incisors, $\frac{6}{6}$ Canine, $\frac{1\cdot1}{1\cdot1}$ Molars, $\frac{4\cdot4}{4\cdot4}$

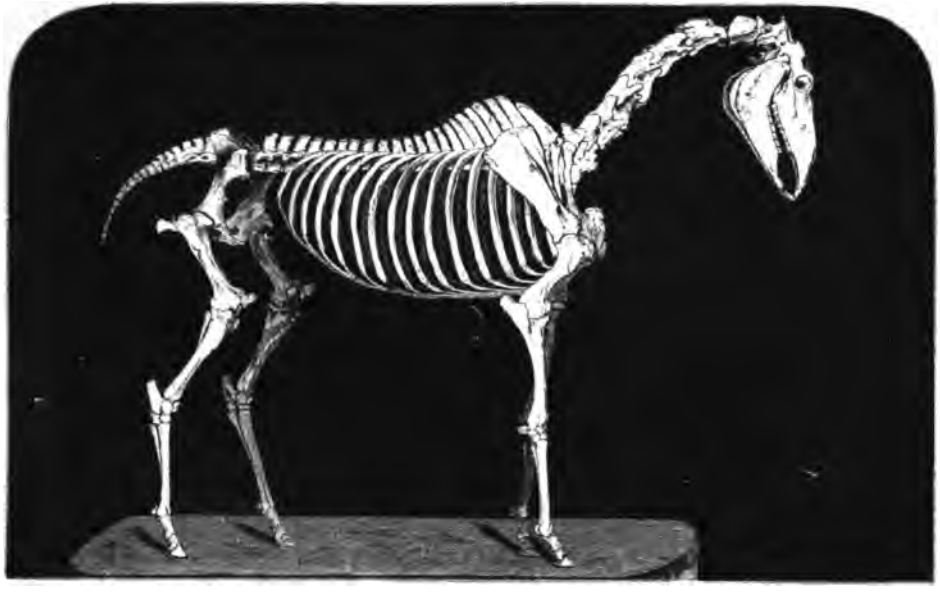
IN THE DOG.

Incisors, $\frac{6}{6}$ Canine, $\frac{1\cdot1}{1\cdot1}$ Molars, $\frac{6\cdot6}{8\cdot8}$

IN THE HORSE.

Incisors, $\frac{6}{6}$ Canine, $\frac{1\cdot1}{1\cdot1}$ Molars, $\frac{6\cdot6}{6\cdot6}$

The age of man and of the dog can seldom be ascertained by the teeth, but that of the



SKELETON OF THE HORSE. *Fig.* 3. P. 630.

horse may generally be arrived at with tolerable certainty, as follows:—

MARKS OF THE AGE OF THE HORSE AS SHOWN BY THE TEETH.

At one year old, all the milk-teeth are come up; the two centre nippers of the lower jaw are partially worn down, the two next very slightly so, and the outside nippers entire.

At two years old, the "mark" is nearly obliterated in the four centre nippers, and those of the outside ones are much reduced in size.

At three years old, the colt has shed the two centre nippers, and has two permanent teeth, on which the "mark" is quite fresh; and the tusks begin to show their future position by a prominence of the gum.

At four years old, the colt has shed the next two milk-teeth, and has four permanent ones, of which the central two are gradually losing their "mark." The tusks now come through, just showing their points.

At five years old, he has all his permanent teeth. The centre nippers are much worn, but still show the "mark." The next are partially worn, while the corner nippers are quite sharp, and with the cavity or "mark" quite untouched by friction. The tusk is much grown, and well raised from the gum.

At six years old, the "mark" in the centre teeth is quite gone, leaving only a yellow oval stain with a black speck in the centre. The next two are also losing their cavity, but the corner teeth are still sharp, and have the cavity unworn to any extent.

At seven years old, the "mark" is gone in all the lower nippers but the corner ones, and

At eight years old, it disappears even there, after which there is no reliance to be placed upon this sign; the length and *obliquity* of the teeth increase with age in both respects; but these signs depend a good deal upon crib-biting, or other habits, and no great reliance can be placed upon them.

THE SPINAL COLUMN (*a b*) consists in all of a series of bones united together by an elastic material, called the intervertebral substance, and by ligaments also as well as by muscles. Each bone is pierced by a large hole for the lodgment of the spinal cord, and by lesser notches, or holes, for the transmission of the nerves, a pair of which leave the cord opposite each separate bone. Besides the body and the holes (or *foramina*, as they are scientifically called), each vertebra consists of a spinous process, or projection, backwards or upwards, as the case may be; and of another process, or projection on each side, called the lateral process, all of which are intended to secure these bones together, and to give attachment and leverage to the muscles which bend the spine. To the skull the spinal column is attached by a very peculiar universal hinge-like joint, in such a way that it can be turned in all directions. This in man is very complicated, so as to allow him not only to bend it in all directions, but also to rotate it; whilst in the horse and dog it is strengthened by strong bony projections, so as to support the weight of the head when extended horizontally. The first seven of these bones form the neck, each being more or less lengthened or shortened, according as they are destined to form the long neck of the horse, the medium length of that of the dog, or the short one of man. The next 12 in man, 13 in the dog, and 18 in the horse, have a rib attached to each, or to the intervertebral substance of each, and constitute the vertebræ of the back. Behind or below these are the vertebræ of the loins, which are 5 in man, 6 in the dog, and 7 in the horse; and like those of the neck are free, whilst the last of these lumbar vertebræ is firmly attached in the same way as the others to a corresponding surface of the sacrum, which forms a part of the pelvis, answering to the spinal column, and containing within it a similar canal, which receives the continuation of the spinal cord in the shape of a bundle of nerves, called in anatomy *cauda equina*. Beyond the sacrum, again, are the ossa coccygis, rudimentary in man, but extending to twenty bones in the dog, and in the horse to about fifteen, to form their tails.

THE THORAX, OR CHEST, is formed by the vertebræ of the back and the ribs attached to them, which correspond in number, being in man 12, in the dog 13, and in the horse 18 on each side. Each of them is firmly attached by two joints, one at the end to the intervertebral substance, the other to a lateral process, by means of a tubercle, a short distance from the end. Towards the other extremity the rib becomes flattened, and in its general outline is bent to an irregular segment of a circle, so that the two sides form an arch, more or less of an oval section. Each rib ends by uniting with a piece of cartilage, which in the first seven or eight is directly attached to the sternum, or breast-bone, and in the remainder indirectly through those next to them. The

sternum consists of a series of spongy bones, consisting of 8 in man, and 7 or 8 in the horse and dog, which receive the cartilages, and with the ribs and the vertebræ of the back, combine to form the chest. In the horse, the front of the sternum projects considerably beyond the first rib, in the dog very little, and in man it has an articulating surface on each side for the attachment of the collar-bone, which is wanting in the horse and dog. In man, the greatest diameter of the chest is from side to side, whilst the reverse is the case in the horse and dog. In each case this cavity contains the lungs and heart, and the great vessels, separated from the abdomen by the diaphragm, which is a thin parturition of muscle and tendon stretched across so as to form an arch, with the convexity upwards, and a concavity below, against which lie the liver and stomach; also within the protection of the lower ribs.

The Pelvis (*b c*) consists of an imperfect circle of strong spongy bone, which is made up of the sacrum and ossa coccygis, or tail-bones, above; and of three bones on each side firmly united together, called the ilium, the ischium, and the pubes. These together constitute an irregular ring, protecting the bladder and the organs of reproduction, and also giving a firm support to the legs. By a reference to the engravings of the three species, it will be seen that they vary in shape very much. In man the wings of the ilium are much expanded, and serve to support the intestines; or, in the pregnancy of the female, the gravid uterus. In the horse and dog these parts are much less developed, and the whole pelvis is merely a strong bony ring for the articulation of the hind-legs, and for the attachment of muscles; but it will be seen that it is articulated to the sacrum in an oblique direction, so that in coming down from a leap the shock to the nervous system is very much diminished. The tail is merely a prolongation of the ossa coccygis, which in man are contained within the skin, and are simply rudimentary.

The Hind-legs of the horse and dog and the legs of man are attached to the pelvis in the same way—namely, by means of a ball-and-socket joint; the thigh bone being deeply imbedded in a cup-like cavity of the pelvis, called the *acetabulum*. This is a very strong joint, but it is liable to be dislocated in all three, and is in all very difficult of reduction. This leg consists in each of four portions, which in anatomy have received the names of the *femur* (*c d*), *patella* (*d*), *tibia* and *fibula* (*d e*), *tarsus* and *metatarsus* (*e f*); but in common language different names have been given them which has created considerable confusion.

The Femur, in common language called the *thigh* in man, and the *upper thigh* in the horse and dog, is a long and strong bone, beginning with a smooth ball, called by horsemen the *round bone*, which is deeply let into the cup of the pelvis, and has near it a strong rough process which stands out from it at a considerable angle, and is united to it by a narrow part of the bone called the neck. This process is called the trochanter major, and is the part felt projecting opposite the hip joint; and often called the hip itself, though that name more properly belongs to the crest or ridge of the ilium. Towards the lower end the thigh bone enlarges and forms a smooth surface, covered with cartilage and extending to nearly three-fourths of a circle from before backwards. This smooth surface is attached by strong ligaments to the tibia below, and has playing upon it in front a bone called the patella in anatomy, or in common language the *knee-cap* in man, and the *stifle bone* in the horse and dog. The joint itself is the *knee* in man, and the *stifle* in ordinary equine and canine nomenclature; but, being more or less concealed in them by the flank and large muscles of the thigh, it is overlooked by superficial observers. This joint in all three is liable to accidents, or to inflammations of a serious character, and is frequently the seat of lameness.

The Tibia, called in man the *leg bone*, and in the horse and dog the *lower thigh bone*, extends from the stifle joint to the hock in the two latter animals, and from the knee to the ankle in man. It is supported by a smaller bone on the outside (the fibula), which is lost sight of in common language, and has received no distinctive appellation. In man this bone forms a part of the ankle-joint, but in the dog and horse the hock joint, which corresponds to the ankle of man, is composed of the tibia alone, as regards its upper boundary; whilst below, in all cases, it is made up by the upper bone of the tarsus—namely, the astragalus.

The Tarsus and Metatarsus vary more in these three species than any other parts of the skeleton, except the corresponding divisions of the other extremity. In man and in the dog the tarsus consists of seven bones, but in the horse of six only. In all, however, the tibia is articulated with the tarsus at about one-half of the length from the hind end, and by a cartilaginous surface, composed of three sides; there is also in each a projecting bone (the *os calcis*), which

affords leverage to the strong muscles of the tibia and femur, ending in a tendon, which is called the tendo-Achillis. These bones are united together into a strong whole by ligaments and intervening cartilage, which take off the jar that would otherwise be communicated to the body when the springs and falls are sustained which all these animals are subject to. Below the tarsus are the metatarsal bones—five in man, four in the dog, and limited to one only in the horse, the *cannon*, though with a rudimentary bone on each side, called the *splent bone*. In all of these animals they are tipped by three phalanges to each metatarsal bone, except in man, who has only two to the great toe. In the horse the first phalanx is called the *larger pastern*, the second the *smaller pastern*, and the third the *coffin bone*: whilst the sesamoid bone behind it, which is also found in man and the dog, receives the name of the *navicular bone*; and all are surmounted by horny matter constituting the nails of man and the dog, and the hoofs of the horse. There is, however, this grand difference between the three—man walks upon the whole length of the tarsus, metatarsus, and phalanges, or upon the sole of the foot (*planta*), and is hence called *plantigrade*; but the dog and horse walk upon the tips of their fingers only, and are called *digitigrade* for that reason—the former walking upon all his fingers, whilst the latter walks upon one only, the remainder being lost in the splent bones, which do not reach the length of the fingers at all. Both carry their hocks, corresponding with our heels, some distance from the ground, whilst ours is the first part to touch it in the walk; and it is only in the run upon the toes that it is carried clear of the ground. All these several points of resemblance or difference will be rendered clearer by comparing the skeleton of man, purposely placed in a stooping position, with those of the dog and horse. A side view of each is given in a corresponding attitude; and thus it may be seen how our knee is the same joint with their stifles; how our heel is their hock; and in what way our foot corresponds with their pasterns, and our metatarsal bones with the *cannon bone* of the horse; also, how our nails are analogous to the hoofs of the horse, which grow in the same way, or nearly so, and are as easily separated by inflammation, or other disease.

The Upper Extremity of man corresponds with the fore-leg of his chief ministers, the dog and horse, but differs still more than is the case with the other extremity, which is chiefly used by man in progressing, though in a different position, to that of the dog and horse, he being a biped. But with the limb we are now considering, a hundred different actions are to be performed—ropes are to be pulled down or up, or straight towards the body; large and small substances are to be grasped in the arms; hammers are to be wielded with terrific force, or with all the delicacy necessary for riveting the fine mechanism of a watch; besides the multifarious movements of a similar character. But in addition to all these motions, requiring the whole limb, there are others depending upon the fore-arm alone, in which man shows his superiority to the dog and horse. If the former of these has a wound in the sole of his foot, he is obliged to lie down and forcibly push it sideways against the ground, while he bends the foot, in order that he may get at it with his tongue. Man, on the other hand, can readily turn his palm upwards, and at once detect the mischief, if any there be. In other words, *man can pronate and supinate his hand*, a gift of immeasurable importance to him, though one which he shares with all the higher genera of the monkey tribe. By this power he can turn any object about as he fashions it to his purpose, and can with the greatest ease do that which the otherwise intelligent dog is incapable of effecting. Hence we find that throughout the whole extremity, although the same bones are made subsidiary to this new purpose, yet they are widely different in their joints, and also vary in general form. Nevertheless, all have a Shoulder-blade (*g h*), a Humerus (*h i*), a Radius and Ulna (*i j*), and a Carpus and a Metacarpus (*j k*). Man, also, has a Collar-Bone (*h l*), by which the shoulder-blade is attached to the breast-bone, and is thus rendered more completely a fixed point for the various operations, often antagonistic to each other, which his wants demand.

The Shoulder-blade is very similar in all three skeletons in its general form, though varying considerably in position and in the detail of its parts. In each case it is a triangular flat bone, with a ridge dividing its external surface into two parts. In all there is a shallow cup which receives the head of the humerus, and forms with it the *shoulder joint* of man, and the *point of the shoulder* of the horse and dog. Protecting this joint in man, and partially so in the dog, are two projecting points of bone, the *acromion* and *coracoid processes*, to which the outer extremity of the Collar-bone is firmly united by strong ligaments, the other end being still more securely confined to

the breast-bone by a thick intervening cartilage and additional ligaments. Here there is a strong point of dissimilarity, the dog and horse neither of them possessing a collar-bone; but it is not confined to man, since many of the lower animals also possess collar-bones; as, for instance, the hare, rabbit, and rat—and, in fact, all the division RODENTIA; most of which, however, require and possess, like him, the power of grasping their food, and can pronate and supinate their fore-arms to a degree almost equal to that with which he is endowed. The shoulder-blade in man does not lie so flat on his sides as in the dog and horse, its outer aspect looking nearly in the same direction as his spine; whilst in the other two it looks directly outwards, or very nearly so, the free margins approaching one another more than the joints.

THE HUMERUS is very similar in its general form in all three, presenting a rounded articular surface at the upper end, a long cylindrical middle, and an oblong smooth ridge covered with cartilage at the other extremity, which forms part of a hinge-like joint, the remainder being made up by the ulna and radius. This bone in man is called *the arm*, or the *upper arm;* and in the horse and dog the *true arm*, being in them concealed within the body by the muscles and skin with which it is clothed. In all three the joint bounding it below is called the *elbow-point*.

THE ULNA AND RADIUS are articulated to the humerus, so as to form a simple hinge in the horse and dog, as well as in man; but in addition there is another power given to man, to which I have already alluded, and which is carried out by a very simple yet effective contrivance. In him the ulna forms the chief part of the elbow-joint, whilst the radius enters into that of the wrist, and each has a liberty of rotating in its attachment at the opposite end. Thus, the two may be compared to one bone of somewhat greater length, and joined to the elbow and wrist in the usual way, but afterwards divided obliquely from one end to the other in such a way as to leave one joint entire for the wrist, and the other for the elbow. If this were done by a carpenter, and the bones rounded off and attached together by a circle of leather at each end, it would be found that there would be a degree of liberty similar to that which we enjoy, but not quite to so great an extent, which is afforded by the two bones arching out from one another in the middle, and thus enabling the movement to be still more complete. The ulna is the bone chiefly entering into the composition of the elbow-joint; and it, like the hock and ankle, has a process projecting backwards, for the purpose of giving leverage to its muscles, which is the *olecranon* in anatomy, or the *point of the elbow* in common language, in all three animals. The radius in the dog extends to the *carpus*, but in the horse it does not reach so far; together they form the *fore-arm* in man, and the *true arm* in the horse and dog.

THE CARPUS AND METACARPUS. — The former consists of eight bones in man, and of seven in the horse and dog; and in this joint there is very little difference between them. In all there are strong ligaments connecting the bones together, so as to form one strong whole, with a projecting hook-like process standing back, under cover of which the flexor tendons pass behind the wrist, and are securely bound in their places. In man the lower row of bones is articulated with the five *metacarpal bones*, which spread to form the palm of the hand. In the dog there are four and in the horse one, which, like the metatarsal bone of the hind-leg, is called the *cannon bone*, and is also supported by two rudimentary metatarsals, and *splent bones* of the fore-leg.

THE HAND OF MAN is a complex mechanism, composed of the five metacarpal bones, four of which each carry three phalanges to form the fingers, and the fifth two only for the thumb. These are simple enough in their bony mechanism, but when clothed with their numerous muscles, and furnished with the net-work of vessels and nerves which the sense of touch requires, it is indeed a wonderful and exquisitely delicate machine; capable alike of picking up the most minute speck of sand, or of grasping and wielding the ponderous hammer of the smith. In the horse and dog the phalanges are almost precisely similar to those of the hind extremity.

SECT. 4.—THE MUSCULAR SYSTEM.

THE MUSCLES are the powers which chiefly affect the various movements, either of one part of the body upon another, or of it as a whole upon the surface of the earth. These movements are sometimes produced by the simple expansion and contraction of hollow muscles, as in the heart, stomach, &c.; or by means of the attachment of the two ends of a muscle to two separate bones with an intervening joint. The description of the precise mode by which muscles contract is too deep and abstruse a part of physiological science for a

ook intended for the sportsman; but it may imply be stated as a fact, that all muscles ave the power of contraction, either at he mandate of the will, or at the command f some other power inherent in particular arts of the nervous system. The former et of muscles are called the *voluntary* uscles, and are those by which we walk, alk, sing, &c.; whilst the latter are those hich contract upon the food in the stomach nd intestines, or upon the blood in the eart, &c., without our knowledge and con-ent, and are hence called *involuntary*; a hird set, again, are usually involuntary, ut sometimes voluntary, as the muscles of espiration and of the bladder and rectum. But besides this division of muscles into oluntary, involuntary, and mixed, there is nother which includes nearly the same ets of muscles in its two sections—the irst of which clothes the skeleton, and noves its various parts upon one another; whilst the second encloses the hollow iscera, and contracts upon them, but has o bony attachments. The first of these ncludes the voluntary muscles, and those nixed ; uscles which are concerned in espiration and in closing the various rifices; whilst the second comprehends he involuntary muscles, and those mixed nes which contract upon the bladder and ectum.

THE MUSCLES WHICH ACT UPON THE SKELETON are very similar in general form nd in action in man and in the dog and orse; and, as is the case with the skele-on, the same names have been adopted into omparative anatomy which were originally iven to the muscles of man. There are, owever, many points of difference, the omplicated hand and fore-arm of man re-uiring many more muscles than the corre-sponding parts in the dog and horse. In all cases, however, they are adapted by their contraction to bring two different bones together, either in their whole length, as in the case of the ribs, or at one extremity only of each, as in the long bones. In the ribs the movements are made by two sets of fibres crossing one another, so that they do not act directly from the edge of one to that of the next, but obliquely, by which they are enabled to bring the two edges much nearer together than would be the case if they acted in a straight direction. It is a rule in all cases that muscles act with power proportioned to their size, but with an extent in accordance with their length. Hence, a short but broad and thick muscle is exceedingly strong, but cannot effect such extensive movements as another which is longer but thinner. Sometimes, again, as around joints, space is an object, and here the muscular fibre is replaced by tendon, which is a firm band or cord of white and comparatively insensible fibrous matter, to which the contractile muscular fibres are intimately connected, and through which they act. Thus, this department of the muscular system is made up—first, of large masses of muscles attached directly to bone at each end, or with scarcely any tendinous insertion, as those of the shoulder and buttock; secondly, of muscles consisting of a middle muscular part called *the belly*, and of one or more tendinous cords, as in the muscles of the fore-arm, &c.; and thirdly, of a thin sheet of muscle ending in a still thinner sheet of strong tendon, as in those of the abdomen. These muscles are bound down in their places by *fascia*, a thin but strong membrane; and when their tendons pass behind joints they are confined in their proper grooves by still firmer and stronger fibrous tissue, forming a complete sheath for them, and called a *theca*. These as well as the joints are lubricated by a mucilaginous oil, called *synovia*; and, in many cases, beneath muscles which pass over bones, there is a bag of the same lubricating fluid, called a *bursa mucosa*. In all the limbs the muscles are arranged in two groups, one which bends the joints, and the other to extend them; but very often when a long muscle passes over two joints, it is a flexor of one and an extensor of the other.

THE HOLLOW MUSCLES vary in thickness and in complexity of structure from the heart, with its cavities and its numerous valves, to the simple, thin, and circular fibres of the intestines. The heart will be described under the organs of circulation, and the muscles of the stomach and bowels under the digestive organs.

SECT. 5.—THE ORGANS OF CIRCULATION.

THE HEART AND BLOOD VESSELS are intended to circulate the blood throughout the whole body, including the lungs; and in the three species we are now examining they are nearly identical, the only difference being such as to allow of the upright position of man. The whole body being built up from the blood, must be liberally supplied with it, in proportion to the duties of the several organs; this is effected by means of a series of tubes, beginning with one trunk, dividing and subdividing like the branches of a tree, and spreading over the body the whole inside and outside of which are furnished from this source with arterial

blood, as the material by which they are kept in order and growth, and from which the various organs secrete or excrete the bile, the urine, perspiration, saliva, &c., &c. These vessels are called the arteries, and they end in a set of minute tubes, called the *capillaries*, from their fineness, which is compared to that of a hair (*capillus*). The capillaries, again, are connected with the extreme branches of another set of tubes, still more numerous than the arteries, and of greater aggregate bulk, which receive the blood through the capillaries from the arteries, and finally end in two veins—the superior and inferior *venæ cavæ*, which force the blood back again into the heart. They are furnished with valves at regular distances, wherever the flow is at all impeded by muscular action or position, as in the legs, arms, &c. This is the mode by which the blood is circulated throughout the body, being propelled by the contractile power of the heart, aided by that of the arteries through their whole course, and also through the capillaries and veins, till it returns back to the heart again. But it does not at once proceed on its round again, a cleansing process must be effected; for in its course it has changed its appearance and its properties, going out scarlet and coming back purple, and having lost oxygen and absorbed carbon; in fact, having been converted from arterial to venous blood, and no longer being fitted for the various duties which the blood is required to perform. It is no doubt a living fluid, and endowed with properties of which we cannot fathom the nature, but from experiment we have arrived at the conclusion that the above changes are produced, and that it requires the contact with atmospheric air, with the intervention only of a very thin membrane, in order to restore to it its oxygen, and to remove its carbon. It is found also by experiment, that air after it is expired contains more carbon than before, in the shape of carbonic acid gas, and has lost part of its free oxygen, and hence the conclusion is arrived at that the blood has effected this exchange in its passage through the lungs. This is somewhat similar to what goes on in our stoves, where oxygen and carbon combine to form carbonic acid gas, and in both cases there is an evolution of heat. The blood, therefore, must pass through the lungs for this purpose; and it is forced into them by a separate artery (the pulmonary), and returned from them by the pulmonary veins; the arteries in this case carrying venous blood, and the veins bringing back arterial blood to the heart. Thus, there are two distinct circulations going on in our bodies—one driving the blood through all parts, and bringing it back to the heart; the other, forcing this same current through the lungs, and back again to the same heart, but to a different cavity. The HEART itself may be said to be composed of two forcing-pumps tied together, each of which consists of a thin receiving cavity (the auricle), and of a strong propelling cavity (the ventricle), with valves between. These are called respectively the right and left sides of the heart. The right auricle, in this way, receives the venous blood from the whole body, and forces it into the right ventricle, out of which it is prevented from returning into the auricle by a valve. The ventricle, contracting, forces the blood into the lungs, through the pulmonary arteries, and back through the pulmonary veins into the left auricle, which again passes it into the left ventricle, and this being also guarded by a valve, propels it through the aorta to all parts of the body, which completes this beautiful circle. But, besides these blood vessels, there is also a set of *absorbent vessels*, of whose powers we know very little, except that they take up and convey into the large veins a part of the fluids and solids of the body; but how far they are assisted by the veins, or in what way the work is divided between them, has never been fully ascertained. They are very fine, colourless, and transparent tubes, arising in all parts of the body, and passing through certain organs called *absorbent glands*, finally emptying themselves in the large veins near the heart.

THE PULSE.—The heart propels the blood with such force through the arteries, that in the principal one of the neck of the horse, if a tube is attached to it, a column is raised ten feet high, and maintained at that average level. The power and frequency of the contractions varies much, from 100 beats a minute in the small dog to 40 per minute in the horse. In these contractions the arteries, as they receive the blood, elongate and expand, and then contract upon their contents, so as to make what was at first an intermittent action resolve itself into a continuous one as the blood reaches the small vessels. Hence the flow from a large artery is by jets, and from small ones continuous. This alternate action and reaction of the heart upon the artery, and of the artery upon the blood, constitutes what is called *the pulse*, which may be felt in the situation of any large artery, but is generally examined in man at the wrist, in the dog under the arm, and in

the horse under the lower jaw, opposite the middle grinders.

SECT. 6.—THE ORGANS OF RESPIRATION.

In the last section I have briefly alluded to the process which is effected in the organs of respiration, by which the blood is renovated, and animal heat is evolved. The heart has been shown to throw its blood through the lungs, and it must now be explained that these consist of a spongy texture, made up of fine air-cells, communicating with each other, and with small air-tubes (*bronchi*), which finally unite by means of a single bronchus on each side in the *trachea*, or *windpipe*. This, again, passes up the neck, and at the root of the tongue it is guarded by a complex mechanism, consisting of several cartilages, ligaments, and muscles, by which foreign bodies are prevented entering and producing irritation; and where, also, the various sounds are effected which in man constitute his language, and in dogs and horses, barking, growling, neighing, &c. This is called the *larynx*. Into the cells of this spongy texture the air is admitted, and from them it is expelled by the act of breathing; and while there it is separted from the blood circulating over their walls by the thin membraneous lining of the cells, and by the coats of the capillaries themselves. The substance of the lungs themselves is made up of a lining membrane, which extends over the whole inner surface of the cells and air-tubes, and which secretes the mucus that keeps them moist, and is continuous with the mucous membrane of the mouth at the top of the larynx. The lungs are divided into two large sections, one on each side of the body, which again are subdivided into lobes; but the grand division is into the two lungs; and they each lie within their respective sides of the chest; and they, as well as the internal surface of the ribs are, as it were, varnished by a thin membrane, called the *pleura*. This membrane is carried from one to the other in such a way that it forms a large shut sac, the outside of which is applied, on the one hand, to the inside of the ribs; on another, to the outside of the lungs; and on a third, to the upper surface of the diaphragm, which forms the lower boundary of the thorax. This cavity usually contains a very small, and almost inappreciable quantity of serum, secreted in the inside, and enabling the various lobes of the lungs to glide smoothly against the walls of the chest. Between these two membranes, the serous on the outside and the mucous on the in, there is a small quantity of fine cellular membrane, in which lie the blood vessels and nerves, and which is called the *parenchyma*, or substance, of the lungs in anatomy. Each of these tissues is the seat of a separate inflammation, and their nature and functions should be known in order to treat them properly. But, though I have shown how the blood is propelled through the lungs, and that these are capable of admitting air to it for the purpose of renewing its requisite properties, there remains, to be described the mechanism by which this air is admitted and renewed; and this in proportion to the impurity of the blood, whether healthy, the effect of exercise, or unhealthy as in disease. In order to understand this mechanism, the chamber in which the lungs lie must be examined, when it will be found to consist of an irregular cone with the narrow part towards the neck of the animal. The sides of this cone are composed of a series of hoops, which do not form segments of circles, but are more or less angular in their curves, and are attached obliquely to the bones of the spine, which are fixed points, so that as they are raised they increase the diameter greatly; but in man and in the horse and dog in a very different mode. In man they may be considered as a series of hoops which rise and fall like the hood of a carriage, the breast-bone merely connecting the two sets of ribs, and rising together with them. In him, therefore, the diameter is increased almost entirely from behind forwards, and not to any great extent from side to side. In the dog and horse, on the contrary, the spine and breast-bone are both of them fixed points, and the ribs on each side are raised independently of each other, increasing the transverse, but not the perpendicular diameter. The reason for this difference is, that these animals are both suspended from their ribs to their shoulder-blades; and if they were continually altering the position of their breast-bones, as regards their spines, they must also raise and lower their bodies, which would be a great and unnecessary expenditure of muscular force; whilst by dilating their chests only laterally, the attachments of the great suspensory muscle are always at the same distance from each other; and whether the lungs are dilated or contracted, the body is at the same distance from the ground. Place a man panting for breath flat upon his breast, and observe how his body rises and falls with each inspiration and expiration, and he will tell you at the same time how much more

laborious his breathing is; just so would it be with those animals whose bodies are required to be supported upon stable points, however elastic may be the connecting medium, and not upon a moveable frame, which in the horse if his chest moved like that of man, would rise two or three inches with every inspiration. For this reason it is that many flat-sided horses and dogs are good-winded, because though their chests are not naturally capacious, yet from their capability of increasing the cavity rapidly, they can change the volume of air more completely than a rounder and larger-barrelled animal, whose ribs are not so moveable. Every one has heard the school-boy's riddle, which demands—"how is it possible to arrange a hundred sheep-hurdles so that two more shall enable the fold to contain double the number of sheep?" The answer being, by placing two fifties in straight lines, leaving only a narrow space of the width of a hurdle between them. Here the volume is doubled by a slight increase of width; and so it is with a narrow chest, if only the ribs are set on with a good curve, and the muscles have power to bear them. But besides this increase of the capacity of the chest by means of the ribs, there is another and most important aid in the diaphragm, a muscular and tendonous division, of an arched form, which separates the chest from the abdomen, lying completely across with its convexity towards the lungs. This convexity is capable of being diminished to a plane surface, by its contraction; and in the living state, especially during its powerful action when strong exercise is going on, there is reason to believe that it becomes nearly or quite plane, whilst it is afterwards rendered convex again by means of the abdominal muscles, which force the liver and stomach into its concave surface, and thus push it against the lungs themselves, and expel their air. In this way the muscles attached to the ribs increasing the transverse diameter, and the diaphragm enlarging the cavity towards the abdomen, the air is strongly drawn through the trachea into the interior of the lungs, and expelled again by the muscles which lower the ribs, and by the abdominal muscles pushing up the liver and stomach, as well as by the natural elasticity of the lungs themselves, and of the walls of the chest. In ordinary respiration, the inspirations are chiefly carried on by the diaphragm; but in violent struggles, which demand all the air that can be forced in, the shoulder-blades, arms, neck, and head all become fixed, because they have muscles attached to them, and to the ribs also, which in the usual way are employed in moving these various organs, but which now become auxiliary to respiration by acting upon the ribs from these several parts as fixed points. Hence, the runner keeps his arms well up and fixed, and his head and neck stiff, because in this way instinct teaches him that his ribs are more forcibly raised than they would be with lowered shoulders, flaccid arms, and drooping chin. The horse also extends his neck, and by so much helps to raise his ribs on each side; but he does not set his shoulder-blades, for two reasons—first, because it would interfere with his progress in the gallop; and secondly, because the muscles which run from the shoulder-blade to the ribs are not auxiliary muscles of respiration, for they have no power to act upon the ribs in the way in which only their action would be serviceable—that is, towards the apex of the chest, which is also the root of the neck, where the really useful auxiliaries are attached.

THE CHEMICAL ACTION of respiration is more mysterious than the mechanical, for though much has been discovered by Liebig and others, there is still a great deal which is incomprehensible. It will, in the first place, be necessary to explain that the atmospheric air is made up of 21 parts of oxygen to 79 of nitrogen, which is the condition in which it enters the lungs, whilst on its reappearance it has sustained the following changes—first, it has lost oxygen; secondly, it has received carbon in the form of carbonic acid; thirdly, it has suffered a change in the quantity of nitrogen, varying with the condition of the animal. These changes are intimately connected with the effect upon the blood, which is found at the same time to have gained what the air has lost, and to have given out exactly what the air has gained; and thus it is conclusively ascertained that the air is inspired for this express purpose. The absorbed oxygen is supposed by Liebig to enter then and there into combination with the carbon, which process he describes as exactly similar to ordinary combustion; but, from other experiments, there is strong reason to believe that the oxygen is absorbed into the blood, and that its union with the carbon takes place in all the parts of the body; the carbonic acid being there generated and contained in the veins until they reach the lungs and skin, where it is given out; so that the combustion is a general one, and animal heat is thus produced in the extremities, inde-

pendently of the warm blood sent them from the heart. But besides this oxygen absorbed for this specific purpose, a still further quantity is absorbed for the purpose of uniting with the sulphur and phosphorus contained in the body by which they are enabled to combine with other elements, and so produced the phosphates and sulphates. The carbon which is exhaled from the lungs and skin is of an enormous amount, varying with the exercise taken, and with the temperature of the surrounding air—a great quantity of the former and a low degree of the latter both increasing the exhalation of carbon. By actual experiment it has been found, that a person who, in a state of rest and fasting, excreted 145 grains per hour, after a meal and a walk, excreted 190 in the same time. During sleep the same person only excreted 100 grains. It is supposed that an adult male who takes strong exercise will excrete about 10 or 11 oz. per 24 hours; and that those who take little will not lose more than 7 or 8 oz. Assuming 10 oz. as the average, its union with oxygen to form carbonic acid gas will produce 21 cubic feet of that noxious element. So that a man lying in a confined space of 7 feet long by 3 feet wide, will, in the course of 24 hours, discharge from his person enough carbonic acid gas to fill this space one foot high; and as carbonic acid is much heavier, and very slowly mixes with the general atmosphere, he would, if lying perfectly flat, destroy his life by suffocation, unless there happened to be some leakage under doors and similar apertures. This fact should be borne in mind in the construction of stables, where the area for each horse is seldom more than 100 superficial feet; and, as the weight of his body is more than five times greater than that of man, it will be manifest that he will also give off during the same time enough carbonic acid gas to fill his stall or box to the same height; and it is only the presence of the crevice under the doors, *and very often of open drains untrapped*, which saves him from the injurious effects of this gas. The examination of the nitrogen which is given off or absorbed is not of so much importance to our present subject, especially as little is known of its effects; but it is found that animals well fed and in health increase the nitrogen already existing in the air, whilst those which are badly fed absorb it, and consequently diminish its amount in the air: thus, in hybernating animals, nitrogen and oxygen are actually absorbed to a greater extent than they exhale carbon; and hence they do not lose weight during the period of their long sleep. The following table shows the difference of the proportions of these elements in the two states of the blood:

	Arterial Blood.	Venous Blood.
Carbonic acid.	62·3	71·6
Oxygen. . .	23·2	15·3
Nitrogen . .	14·5	13·1
Total . .	100	100

Thus, it would appear that the quantity of nitrogen is very nearly the same in both conditions of the blood; whilst about one-third of the free oxygen of the arterial blood disappears during its circulation and passage into the veins, and is replaced by an equivalent amount of carbonic acid. The converse of this takes place in the capillary vessels of the pulmonary vessels, where this same amount of carbonic acid is set free and replaced by oxygen.

Sect. 7.—The Organs of Nutrition and Depuration.

In all animals there is a constant necessity for the repair of the waste going on in the various processes, such as muscular contraction, respiration, &c. This repair must be accomplished by means of food; and it is further necessary that digestion shall prepare this food previously to its being converted into that generally useful fluid, the blood, from which all the materials of the body are built.

The Blood, as seen by the microscope in the living vessels, is composed of two parts—one transparent, thin, and nearly colourless, called *liquor sanguinis*; the other consisting of *corpuscles*, some of which are red, and others colourless, but all more or less disk-shaped: but when drawn from the body there is a different separation into *clot* and *serum*. The former is composed of a network of *fibrine*, in which the corpuscles are entangled, while the latter is identical with the liquor sanguinis, but deprived of its fibrine. The serum also contains a quantity of *albumen*, which coagulates by heat; and likewise earthy salts, which remain after it is evaporated and exposed to a high temperature. This gives us the four following components of the blood, differently arranged in the living vessels, and when deprived of their protection:—

BLOOD IN THE LIVING VESSELS CONSISTS OF

Fibrine, Albumen, Salts,	Forming with water the liquor sanguinis, in which are suspended the corpuscles.

BLOOD, WHEN DRAWN AND COAGULATED, CONSISTS OF

Fibrine and Corpuscles,	Forming the clot, with a small quantity of water.
Albumen and salts,	Forming with a larger proportion of water the serum and remaining fluid.

THE USE of these various materials is as follows:—

1.—THE FIBRINE is the material which is most thoroughly elaborated, and ready for supplying the muscles and other solid tissues, with new matter, in lieu of their worn-out atoms. It is, therefore, continually being employed for these purposes, and fresh supplies afforded, partly by absorption directly from the digested food, and partly from the conversion of albumen into fibrine in the blood vessels themselves, which is constantly going on in the circulation of the blood.

2.—THE ALBUMEN is the next in point of importance, being also the most abundant, and not only keeping up by its conversion the requisite quantity of fibrine, but also directly supplying many of the secretions and formations, as the scarfskin, nails, horns, and a great part of the skin itself; the soft parts of the bones, and, in fact, all the gelatinous tissues; as well as, in all probability, the corpuscles themselves.

3.—THE CORPUSCLES are chiefly useful in carrying on the process of respiration, and in stimulating the contractions of the muscular tissues; but the presence of the red corpuscles is no doubt necessary to the health and well-being of all the warm-blooded vertebrated animals.

4.—THE SALINE MATTER is partly required in order to prevent decomposition, and, in part, to supply the mineral materials necessary for the formation of bone, in which lime and phosphorus are chiefly concerned; and, also, for the secretion of some of the fluids which are necessary for the purposes of digestion—as the bile, saliva, pancreatic fluid, &c.

5.—THE WATER is, as in all other cases, the means of making fluid the otherwise solid materials.

THE SUPPLY OF FRESH BLOOD is kept up by the *digestion* and *assimilation* of food admitted into the stomach for that purpose; hence it would appear that, for a healthy individual, food which contains all the essential elements of blood, in the proportions adapted to his particular state, is the best calculated to support the waste of the system. Thus, supposing an animal is largely consuming his muscular apparatus by long-continued and violent exercise, then food which contains in large proportions the elements necessary for the repair of muscular tissue will be best adapted for his state. Or, in case of an animal exposed to severe cold, his condition will be most improved by supplying him with food in which carbon is a principal ingredient, because we know that this elementary substance is the one which is engaged in producing animal heat. The first and most important process, therefore, in nutrition is the procuration of proper food.

DIGESTION is the next step in the circle of needful processes, and by this is understood the prehension, deglutition, maceration, and chemical conversion of the food into what is called *chyme*, a pulpy fluid which is ready to be changed into *chyle*, and at once absorbed into the blood by the vessels specially appointed for that purpose. Now, the seizing, masticating, swallowing, and maceration in the stomach of the articles of food, is managed somewhat differently in the three species under consideration: man employing various agents, such as fire, water, mechanical trituration, &c. to assist him; and the dog using his teeth and paws, to gnaw his bones and tear the flesh into shreds before he swallows it. The horse, on the other hand, crops the grass with his incisors, or gathers up the corn with his lips, and grinds the latter well into a pulpy mash before he swallows it. In these several ways, and by the aid of the saliva, the food is masticated and swallowed by them all, and reaches the stomach more or less prepared for the dissolving power which that organ possesses in such a remarkable degree. In man and the dog it is a capacious oval sac, capable of holding a very considerable meal, and in all probability intended by nature for long fasts and occasional replenishments only, not perhaps exceeding one meal a-day, as is the usual custom with savage tribes, who indeed gorge themselves, and then fast with an endurance which civilized nations cannot possibly imitate. The same change has taken place in the dog's stomach by civilization, and he now is rarely suffered to pass twenty-four hours without two or three meals; when in his natural state there can be no doubt he would scarcely average

three or four full meals a week. The horse, on the other hand, when in his native plains, is perpetually feeding in small portions at a time; and he then, as now, requires small and regular supplies of food at short intervals, to keep him in a state of full health. By many this is supposed to be in order to enable him to gallop without injury; but it is rather that he may *always* be prepared for flight, because, unlike the carnivorous animals, he cannot choose his time, but must save himself by the use of his heels, whether after a full meal or a light one. The dog, on the other hand, can gorge himself and wait till he is again hungry before he exerts his powers; and he may therefore be furnished with a capacious stomach without risk. Man, also, has the same choice, and, like the dog, he fills himself, and then sleeps till his stomach warns him that he must replenish it by the chase. The stomach consists, in all three, of an oval sac, with an orifice at one end, by which it receives its food, and another at the other end, through which it passes it out into the small intestines as soon as it is fit for the manufacture of *chyle*. It has an outside covering, smooth and lubricated with serous fluid, which suffers it to assume the various forms which its change from a state of emptiness to one of repletion demands. Next to this serous coat is a muscular one, which serves to contract the various parts, and so move the food from one to the other; and lining this, again, is the mucous surface, studded with small glands, by which the *gastric juice*, the main agent of digestion, is produced, and also sufficient mucus to protect the walls of the stomach from its powers, or from any deleterious article admitted into it by mistake. This juice is a very powerful solvent, and is made up of various acids, and other powerful agents, by which even bones themselves are dissolved in the stomach of the dog, and also sometimes in that of man. It is not present in the empty stomach, but is poured out rapidly as soon as food is introduced, and soon changes it into the pulpy substance which I have already said is called chyme. This is semi-fluid, and with a slight acid taste, sometimes creamy in appearance when the food is oily, or more like gruel when farinaceous. Part of this is at once absorbed through the walls of the stomach itself, and conveyed direct into the blood; the remainder passes on by the agency of the muscular fibres into the *duodenum*, or first small intestines, where it is mixed with the *bile* and with the *pancreatic juice*, and becomes converted into a still more pulpy and milky fluid, the *chyle*, which is passed on into the remainder of the small intestines, the *jejunum* and *ilium*, and there is taken up by the chyliferous absorbents, called lacteals, and conveyed into the large vein near the heart by a particular absorbent tube, called the *thoracic duct*. The remainder, which is not absorbed, is passed on by the muscular contractions of the bowels, called *peristaltic*, to the larger intestines; and there becoming still further relieved of its watery particles, and also receiving the addition of some worn-out materials poured in from the blood vessels surrounding their coats, it finally assumes the appearance of *fæces*, and is discharged *per anum*.

The Bile and Pancreatic Fluid are both concerned in the preparation of the chyle, to which duties they are specially appointed; but over and above this it appears that the bile is useful in depurating the blood, and removing from it certain noxious elements, which, if retained, would become highly injurious. The pancreatic fluid is only secreted during digestion, but the bile is poured out at all times; and, if not secreted from any torpid condition of the liver, the blood becomes overloaded with noxious particles, headache follows, and, finally, fever and even fatal injury. Bile is a kind of soap, and appears to act specially in converting sugar into albumen, and the fatty compounds necessary for the support of life. The pancreatic fluid, on the other hand, seems to render the fat taken as food fit for absorption, which it is not in its raw state. But not only is the liver useful by supplying bile, but it also directly purifies the blood as it passes through it, in the return from the intestines to the heart; and besides this, it seems to exert a powerful influence in *assimilating* the new material to the condition which it must attain as a part of the blood. Here also fibrine is largely formed from albumen, and fat from sugar.

The Kidneys and Skin still further purify the blood, and remove the watery particles which are introduced into it as a solvent for the various solid elements required for general use. Hence, the greater the necessity for rapid supply of solid material, the more liquid is removed by perspiration or by the formation of urine, so that new fluid in the shape of chyme or chyle may be introduced into the blood vessels without unduly distending them. The Bladder is the hollow sac in which the urine is accumulated, as it is secreted by the kidneys, to prevent the necessity which

would otherwise be felt for the continual passage of urine.

In Three Various Ways the blood is nourished and depurated, receiving its additional supplies—first, from the general absorbents; secondly, from the lacteals through the thoracic duct conveying chyle; thirdly, direct from the internal surface of the stomach and small intestines, through the veins, whose contents are conveyed through the liver, and depurated by the lungs, the liver, the kidneys, and the skin. The supplies, in the first place, being all derived from the food, which is digested by the stomach, aided by the bile and pancreatic juice, and converted into chyle, which is absorbed into the blood.

The Articles of Food which are most adapted to support man, as well as the dog and horse, in a high state of health and energy, are nearly identical in ultimate composition, though somewhat different as they appear to our general senses. In each case food is required for four different purposes—first, for the building up of the machine; secondly, to supply the loss occasioned by its constant tendency to decay, even when in a state of repose; thirdly, to make up for the waste occasioned by wear and tear of the muscular system; and, fourthly, to supply the materials for the heat-producing process. Now these processes are differently carried on, according to the age and habits of the individual; thus, the young animal will call upon the first division for more than the adult, and will, consequently, consume much more food; whilst the very old one will be able to sustain life in a state of rest, with little or no demand for any supply but the second and last. If proper food is not supplied to the growing young animal his frame is imperfectly nourished, and he not only is stunted in size, but his growth is not in a proper proportion of parts, and he is unsightly and awkward. The same takes place from over-feeding, when a redundancy seldom is met with equally in all the various proportions, but rather in some one or two, which are exaggerated to an undue degree, and completely overpower their adjacent members. Thus, fat is stored up in enormous masses in the adult animal; and though it is capable of being afterwards withdrawn, yet it often has in the meantime led to the absorption and loss of those parts upon which it has been lying. In estimating the value of the various aliments, therefore, the age and the habits must always be taken into consideration; and when this is done it will be found that saccharine and albuminous elements will be required for young animals, rather than those loaded with fibrine; whilst in the adult period this element is required in large quantities; and in old age, oily or starchy compounds, which are full of carbon, and support combustion. Sugar, there is reason to believe, is very readily admitted into the circulation, and supports the process of respiration well—hence its use to young animals. In omnivorous animals, like man and the dog, a mixture of substances containing nitrogen, with others free from it, is the best kind of food; and this is met with in flesh and farinaceous food, together with the saccharine fruits of the earth. But wheaten bread contains the same elements, and upon it either the man or the dog, or even the horse, can be sustained in good health, if accustomed to it from an early stage. With the addition of an animal oil, it will at all times serve for a permanent diet; and in a low temperature will scarcely be sufficient without it, or some fermented liquor in its place. But if violent exercise is taken, flesh should be added, in the case of man or the dog; or in the case of the horse, a large proportion of corn, with, at the same time, *well fermented hay*, in which sugar is thoroughly developed. Rice and potatoes, together with sago, and other articles chiefly made up of starch, are solely beneficial in supporting respiration, and effect little towards the repair of the muscular tissues, which are composed in great measure of nitrogen. Another important consideration in supplying food is the change which is required in its nature, few animals being capable of carrying on digestion of the same materials from week to week without suffering loss of health. Thus, cattle must be moved from one pasture to another; and the horse, after a time, must have a change of food, from corn and hay to green food, or carrots, or his stomach is sure to suffer. In a state of nature instinct prompts to these changes; and even in a half-artificial condition the hare will travel for miles to obtain what she wants although to all appearance she has it close to her own haunt. But these organic substances are not the only ones required by the system; there are also inorganic matters which enter into the composition of the frame, and which must be obtained with the food. *Salt* affords by its decomposition the muriatic acid which is concerned in the digestive process, and the soda of the bile. It is also an important constituent of the serum of the blood, preventing it from being decomposed. *Phosphorus* enters largely into the composition of bone and tissue.

Sulphur, again, exists in small quantities; and *lime* is abundantly required. *Iron*, also, must be obtained, because its presence is important to the due formation of the red corpuscles. These substances are all obtained from our ordinary food. Salt is abundant in flesh and milk, but it should be supplied to herbivorous animals, like the horse, in addition to his food. Lime is abundant in vegetable seeds, like wheat and oats, and in the grasses; and if these are supplied to the horse he will develope bone in a sufficient quantity.

Sect. 8.—The Organs of Reproduction.

These are the same, or very nearly so, in all the three subjects under examination, each possessing the same male and female organs. The male are only necessary for the elaboration of the semen, and for transmitting it into the uterus of the female; but her part consists in preparing an ovum in the ovarium, in transmitting it safely to the uterus, and in then attaching it to the walls of that organ, and nourishing it for a stated period till birth takes place. A further and more elaborate discussion of these offices is scarcely suited to a book like the present.

Sect. 9.—The Organs of Sense.

In all the three creatures we are now examining the same organs of sense exist, but with varying degrees of acuteness. In man the sense of touch and the eye-sight are perhaps more acute than in either the horse or dog, but in the dog the sense of smell is far beyond that of man or the horse, and in the last named animal the hearing is particularly acute. But, anatomically, these organs differ little, each having the same parts, though varying slightly in detail; as in the shape of the pupil of the eye, which in the horse is oblong horizontally, whilst in the dog and in man it is perfectly circular. The horse also possesses a peculiar structure within the eye, the *tapetum lucidum*, of a lustrous green colour, by which he is enabled to see objects in comparative darkness, and especially under his feet. The external ear also differs in all, but the internal parts of this organ are very similar. The nerves supplying the nose are developed in the dog, and those distributed to the ends of the fingers in man, in a high degree; and, as a consequence, these organs are endowed with an extra degree of sensitiveness. The compass of this book, however, will not allow of a full examination of the detail of parts which make up those beautiful organs, the eye and ear.

Sect. 10.—The Skin, and General Cellular Membrane.

All the Parts of the Body are wrapped up first of all in a packing of cellular membrane, which attaches the various muscles, vessels, nerves, and bones intimately together, yet with a power of gliding upon each other which is necessary to their several functions. This is the structure which is blown up in the calf, and which consists of a series of cells communicating with each other throughout the body, and therefore capable of being filled by one or two openings made by the butcher, and inflated by him by means of a pipe passed into them. In these cells fat is deposited and stored up for use, and when wanted it is re-absorbed from them, and carried off into the blood to be converted into other needful materials, or used for the purposes of respiration, for which its carbon is eminently calculated. The skin, again, covers and guards all the parts, and keeps them warm and protected from slight injuries. It is pierced by minute openings, through which the sweat is distilled, and also by oil tubes, which lubricate its surface and keep the hair with which it is more or less covered in a state fit to encounter the watery fluid which rain or flood presents to it. The skin is a highly elastic and yielding, yet tough investment, which will submit to great stretching before it gives way, and is so beautifully adapted to the varying conditions of the animal frame that it fits the lean racehorse as closely as the pampered denizen of the stud.

The Hair is a dead matter secreted by certain bulbous glands, which, as they form it, push it through the skin, being in close contact with its inner surface, and protected by it. The hair of man is not regularly shed; but in the dog and horse it grows longer and coarser in the winter than in the summer, and is consequently shed to provide for this necessity of their exposed condition. This takes place in the spring and autumn, and is strongly marked in the horse, whose coat is completely changed in the spring, and partially so in the autumn; and less so in the dog, who only changes his once a year, and is not provided with one in the winter much longer than in the summer, but has a slight increase of growth added to that which has existed during the warm months. The colour of the hair varies in all; but it is confined to black, brown, dusky-red, and white, or some mix-

ture of these—as mottled-grey, iron-grey, roan, strawberry, pie, skewbald, brindle, black-and-tan, dun, and cream-colour.

THE NAILS AND HOOFS are appendages to the skin, and they are also dead matter, secreted much in the same way. Both are composed of a horny matter, elastic, firm, and capable of bearing great friction. The nails of the dog and the hoof of the horse completely surround the bone upon which they are moulded, and have the vascular structure which secretes them lying between it and them. In man, on the other hand, the nail only covers one-half of the tips of his fingers, because a soft pulpy end is wanted for the organ of touch.

PART IV.

NATURAL HISTORY OF THE PRINCIPAL ANIMALS USED BY MAN IN RURAL SPORTS.

BOOK II.—GENERAL HABITS AND VARIETIES OF THE HORSE AND DOG.

CHAPTER I.
GENERAL HABITS AND VARIETIES OF THE DOG.

Sect. 1.—General Habits.

The Dog (*Canis familiaris*) is the chief assistant to man in the sports of the field, and without him most of them must be entirely given up; hunting, shooting, and coursing would be wholly destroyed, for no substitute has yet been discovered either for the speed of the greyhound, or unerring sense of smell of the bloodhound, foxhound, or pointer. It is foreign to my purpose to enter upon a discussion of those qualities of the dog which are not called into play in the pursuit of game; as, for instance, his fidelity as a guard, or his sagacity as an aid in tending sheep or cattle; or his cleverness in fetching and carrying, or in playing the many amusing tricks which so often are taught him. No animal excels him in these qualities, not even the semi-human elephant; though it is only in certain varieties, as, for instance, the poodle, that these intellectual developments are carried to the full extent. It is scarcely necessary for me to remark, that the dog belongs to the division Vertebrata, and the class Mammalia. It is also in the order Feræ, the family Felidæ, and the sub-family Canina, which includes the dog, wolf, jackal, and fox. This sub-family is distinguished by having two tubercular teeth behind its canine teeth in the upper jaw; and the Canis Familiaris has the pupils of the eye round, while in the fox they are like those of the cat, perpendicular slits, and in the wolf oblique ones. Volumes have been written on the origin of the dog, but our knowledge on this subject may easily be summed up in one little word, *nil*; I shall therefore not inflict upon the readers of this book all the various arguments *pro* and *con*; suffice it to say, that the dog is now an inhabitant chiefly of cold and temperate climates; that it rapidly degenerates if transported to a very warm one, as is seen in India and China, but that it will bear every climate from the Arctic circle to the Equator without loss of life. The dog is a carnivorous animal by nature, though he will feed upon and devour any vegetable substance that comes in his way if pressed by hunger. In his domesticated state he thrives best upon a mixed diet, and is usually considered, and with truth, as omnivorous. His teeth are fitted for tearing flesh, and he has no true grinders suited to bruise grain; his stomach is a simple one, and his intestines are of a medium length between the short ones of the true Carnivora, and the long ones of the graminivorous quadrupeds.

Sect. 2.—Varieties of the Dog.

For the purpose of sport, the dog may be divided into four classes—first, those that find game for man, leaving him to kill it, as the setter, pointer, and spaniel; secondly, those that kill it when found, as the greyhound; thirdly, those that find and kill it, as the staghound, foxhound, harrier, beagle, otterhound, the deerhound, and terrier; and fourthly, those that retrieve wounded or dead game—as the various retrievers, shepherd and drover's dogs, Newfoundlands, &c. For the first of these purposes the dog requires a strong sense of scent, considerable, though not first-rate speed, great power of endurance, and also, and most particularly, implicit submission to his master's orders. For the second, speed only is required, coupled with power of endurance, but divested as much as possible of the powers of scent and intellect. The third requires, as in the first, strong sense of smell, with greater or less speed, according to the purposes to which they are applied, but with immense powers of endurance and hardihood. Whilst the last requires the

peculiar and remarkable intelligence which teaches the dog to bring to his master that which naturally he would much rather devour himself. It also requires a strong sense of smell; and, in the water-retrievers, considerable power of resisting wet and cold. Besides these, there is a large number of dogs used in this country for other purposes connected with game-preserving, such as the mastiff and bulldog, and their crosses.

In describing the various dogs the comparative value of the several points will be laid down according to the scale given in the series of articles on the dog lately published in the *Field* newspaper, making up a total of 100.

Sub-Section A.

Those Dogs that find Game for Man, leaving him to catch it.

This division of the canine race includes all the dogs used with the gun, with the exception of the retriever. They consist of the pointer, setter, and spaniel.

The Pointer of the present day is no doubt descended from the old Spanish dog crossed with the foxhound or greyhound, by which he has obtained greater lightness and activity, united with more lasting powers, but at the expense of his nose, which is not so delicate as that of the source from which he sprung. In the southern districts of England partridge shooting is, I regret to say, often, and indeed generally, carried on without either pointers or setters, and they are consequently much less common than of yore. Hence, as setters are admitted to be the best for the moors, they are gradually superseding the pointer, which will probably soon be among the extinct varieties of the species.

The Head of the pointer should be large but not heavy, wide across the ears, and showing a raised forehead. The nose should be long and broad, with its front outline square, the teeth being even. This marks the pointer from the hound, whose nose has a tendency to slope towards the throat, the extreme of which is called the "pig's snout." The lips should be well marked without running into the flews of the bloodhound. Ears long, soft, and thin, set on low down and carried quite close to the cheeks. Eyes moderately large, soft, and intelligent, the colour varying from buff to dark brown according to that of the coat. A peculiarly rounded outline on the upper side of the neck marks the well-bred pointer, which can scarcely be described in words. No throatiness is allowable, as it indicates too much of the Spanish strain. This *point* should be divided as follows:—Head, 10; nose, 10; ears, 5; neck, 5—total, 30.

The Frame and General Symmetry may be divided into loin, hind quarter, shoulders, and chest. The loin, which with the hind quarter constitutes the propelling powers, must be well arched, broad, and deep, and strongly united to the ribs in front, and to the couples behind, which latter should be wide and somewhat ragged. Next in importance are the shoulders, upon the obliquity of which depends the elasticity of the action, while they must be well clothed with muscle to enable the dog to keep it up for many hours in succession. The chest must be full, but not so much so as that of the old barrel-shaped Spanish pointer, the back ribs being required to be very deep. Hind quarters well bent at the stifles, provided with strong hocks, and clothed with powerful muscles. As to the general symmetry, it is of great importance as marking the breeding of the animal and the truth of the arrangement of his parts. I therefore allot to it 8 points; to the loins, 7; hind quarters, 6; shoulders, 5; and chest, 4—total, 25.

Without the Feet and Legs the continued action of each dog must altogether be forbidden, as weakly formed ones soon give way, and the dog becomes lame. The feet should be round and catlike, with hard horny soles, pasterns short, large in the bone and tendons, and not sloping backwards towards the knees to any great extent. A long and muscular arm is specially necessary, and the elbow must be neither in nor out. These *points* may be valued as follows, viz.—feet, 6; legs, 5; elbows, 4; hocks, 3; stifles, 2—total 20.

The General Quality and Stern indicate by their appearance the amount of breeding, and are therefore necessarily attended to, but the former cannot be described. The stern should be shaped like a bee's sting, having a strong root, a straight, *fine*, and stiff body, and a pointed tip—total value, 15.

Of the Colour and Coat, the former may be selected according to fancy, but most people prefer a dog with a good deal of white so that he may readily be seen in turnips. Liver and white or lemon and white are the most common, next to which come black and white, which, when mixed with tan on the cheeks indicates the hound cross. Whole colours are liver, red, black and white. The texture of the coat should be short and soft, but not too fine, the last named quality being often accompanied by

ENGLISH POINTER.

ENGLISH SETTER.

GORDON SETTER.

IRISH SETTER. P. 647.

a delicate constitution. These *points* are put at 10.

SETTERS of the present day are classed as either English, Scotch (Gordon), Irish, or Russian. It is needless to describe the last named, as the breed which was common enough thirty years ago is now seldom met with, and has no advantage to recommend it. It is a very long haired animal, almost resembling a poodle in coat, except that there is not so much curl. Hence, in the hot weather so often experienced in August and September, it is soon knocked up, and though possessing a very fine nose, this is of little use at its master's heels.

ALL THE VARIOUS BREEDS of the setter are doubtless descended from the spaniel, which dog has a natural propensity to pause before springing on his game. This peculiarity has been encouraged and developed until the innate point has become established, and the setter puppy, if well bred, may be expected to point game on the first or second time of showing it to him, or if very high couraged, as soon as he finds he cannot run it down by speed. In the early days, after the breed was first established, it was used solely by the hawker and netter, who were contented with any animal which would find birds, and setting down on the ground would allow the net to be drawn over him, or the hawk to be cast off, without moving. Since the introduction of the plan of shooting flying, a faster and stouter dog has become necessary, and one also which will bear the heats of August and September. Hence the object of the breeder has been to get rid of the thick curly coat of the spaniel on the body of the setter, and at the same time to retain and even improve upon the elegant feather beneath the tail, or flag, as it is called, and behind the legs. The three breeds we have mentioned into which setters are divided, all agree in this point, however much they may differ in others, as we shall presently see.

THE ENGLISH SETTER is longer and more open in his frame than the pointer, and has a proportionally longer stride in all his paces. He is capable of harder work than that dog, and as his toes are clothed with hair in the intervals between them, he is not so liable to become "foot-sore," either from very dry or very wet ground. In regard to nose, there is much difference of opinion, but I am inclined to believe that the setter has a slight advantage in this respect. When well bred the setter is as easily broken as the pointer, to the point and back, but he is seldom quite as tractable in teaching the other elements of his education, and is, moreover, more apt to forget his lessons than his smooth competitor in the shooting field. These remarks, however, apply more to the setter of the early part of this century, than to the dog of the present day, which is a great improvement upon his ancestors.

THE HEAD is lighter than the pointer's, and narrower across the ears, but equally high at the forehead. The nose is long, and shows a slight tendency to fall inwards towards the eyes, the corners of which should be not less than four inches from its tip. This should be broad, with large open nostrils, well bedewed with moisture, and of a dark colour. Teeth level, and without the slightest tendency to the "snipe" form. Lips full at the angles, but not pendulous even to the extent allowable in the pointer. Ears must be set on low and well forward, carried without any approach to the prick shape, and rounded at the lower edges. Eyes large, but not protruding, and beaming with love of approbation and intelligence. Neck long, thin, and slightly arched above, but showing a clean cut line where it joins the head. Value of these *points*: head 10, nose 10, neck 5, ears 5.

THE FRAME AND OUTLINE, though different to the eye of the judge from that of the pointer, cannot be separated from the latter by any verbal description, except that the chest is rarely so wide or barrelled as is allowable in that dog. The hips are also more ragged and the loin slightly more arched. The *points* are, loins 6, shoulders 6, hind-quarters 6, chest 4, outline 3.

IN THE FRET AND LEGS also the remarks on the pointer are equally applicable, but there is some difference of opinion as to the hare foot, which by many is considered to be necessary to the thorough-bred setter. In this shape the toes are longer than in the cat foot, more split up, and thickly clothed with strong hair between the toes. No doubt this last feature is of great service in keeping the skin free from inflammation when at work over marshy ground, but the long toes which usually attend this development, do not stand so well as the stout cat-like formation of the other foot. It is somewhat difficult to strike the balance between these feet, as one form is best suited to wet ground and the other to hard. If it is possible to get the cat-like foot with sufficient hair upon it, I should no doubt prefer that form, and though I have never seen the two fully united, I do

not despair of getting them by careful breeding. Feet 8, legs 7, hocks 5.

In the general Quality or Character there is not much to alter from the remarks given under the pointer, but the *stern* or *flag* varies a good deal. It should be set on well up the back, but not carried with the slightest curl over it, though there may be a gentle and regular sweep in its upper outline. The feather should be flat, long, and silky, deep in the centre, and tapering to each end. This should be as pointed as in the pointer, and should be carried in the same perpendicular plane as the rest of the flag, without the slightest approach to the corkscrew form. Total value 10.

The Coat must be fine and silky, but still hard to the touch, a combination that can only be felt, and not imagined. There must be no curl, while the stouter it is in the body, and the longer in the feather, the better for the value of the dog. Value 15. The order of merit of the various colours met with is as follows:—viz., 1. Orange and white, with freckled nose and legs. 2. Orange and white, plain. 3. Lemon and white. 4. Black and white, especially if ticked with slightly tanned spots on feet and legs, known as "Belton grays." 5. Pure white. 6. Black. 7. Fallow or yellow. 8. Liver or liver and white. 9. Liver and tan.

The Scotch or Gordon Setter has become very fashionable of late years, and especially since the introduction of dog shows, at the first of which, at Newcastle, Mr. Jobling's Dandy gained the judge's approbation, endorsed by the general public. Since that, Mr. Pearce's Kent (bred by Sir Edward Hoare) has carried on the furore which was raised in favour of this breed, with the able assistance afforded by the late Mr. Burdett, with his Ned and Brougham, Mr. Fleming's Dandy and Moll, and others of less note. He differs from the English setter in the following properties, viz.: In stern he is generally shorter, or if long, it has a decided tendency to show the "teapot" form, than which nothing is more ugly. This is probably derived from the colly cross, which, I have no doubt has been used in some strains with the disadvantage of introducing this defect and a more woolly coat. In my own dog Rex (son of Kent and Regent) whose portrait faces page 647, the flag is faultless, and is somewhat longer both in bone and feather, than is given by the artist who sketched him while yet in his puppyhood. The Gordon head is perhaps slightly heavier than the English, and his nose and intelligence are proportionably good. In colour he is a rich black-and-tan, but it is asserted by many experienced breeders, that the original colour was more or less mixed with white. His carriage is very lively, and he is full of hunt, but he is apt to be shy and headstrong. My experience of the breed in the field is confined to Rex, who is certainly the most perfect dog I ever saw out, but though he was selected from a lot as a sample, to test their value, it does not follow that he is not an exceptional animal of his strain.

The Points are the same as in the English dog.

There is still more difference of opinion as to the shade of colour of the Irish setter than in relation to the Gordon. By one party it is asserted that the well-bred Irish setter must be of a deep pure blood-red without the slightest approach to black or mahogany colour on the back, ear, or stern. After the publication in the *Field* of the article on this dog, in which this was laid down as the attribute of the breed, Mr. Hungerford opened the controversy by asserting that according to his experience, they might be either red or red and white, followed by Mr. John Walker (the well-known judge at most of the recent dog shows) who raised the question as to the objection to the black tinge, which was answered by Colonel Whyte in the negative and by Mr. Harry Blake Knox as follows: "The coat should be rather coarse, for you want him for hard work and hardships; smooth or wavy, not curly; hair of moderate length on the upper parts of the body; the foot-half, tawny, the tip-half, deep senna, appearing as if stained with port wine (blood-red), but never showing black on the ears, back, head, or tail; the legs and under parts, deep or pale tawny; white should not appear anywhere except in the centre of the forehead, and the centre of the breast. I breed without any white at all.' Colonel Hutchinson objects to the black stain, and supports his opinion by adding some high authorities in its favour. On the whole, therefore, it may be assumed that the weight of evidence is against the dark stain.

In other respects Mr. Knox's description is so admirable that I quote it *in extenso* as follows: "The ears should be long, reaching to the end of the hair at nose, pendulous, and as if lying in a fold set well back and low on the head; they should never be set high, short in length, or half diamond-shaped; their feather should be moderate. The eye is of a rich hazel or

SUSSEX SPANIEL.

CLUMBER SPANIEL.

bright brown, well set, full, kind, sensible and loving, the iris mahogany colour; it should be gooseberry, black, or prominent and staring, like the King Charles. The nose is mahogany, dark flesh, or blackish mahogany, never black or pink. Even dark flesh is not so much admired, though, with a good clear eye, I like it; but with the gooseberry eye you indeed have a rare brute. My old dog has a dark flesh-colour nose, unlike any of his kind, yet none of his pups got it, all having dark mahogany; the whiskers red; the head itself long and narrow, yet wide in the forehead, arched in the peaked cranium behind. A short bullet head, a wide flat one, or one running to a point at the snout, is very common and very bad; the lips deep or moderately so. The chest should be wide when the dog is sitting on his haunches and the head held back. Too wide a chest is apt to give a dog a waddle and slow gait. The chest ribs cannot be too deep. The loins for speed should be long, moderately wide, and the belly well tucked up. The fore legs straight, moderately feathered, and the feet close and small, not round like a hound's, or splayed. The ham straight, flat and muscular, and feathered well with buff-coloured hair, and the hind quarters altogether square and active made. The tail should be well covered with coarse hair curling along the tip, and hanging moderately, though bushy from beneath, but not in silken streamers, or in a great bushy flag like a Newfoundland. It should be carried in a horizontal line with the back, or slightly above it, not cocked or curled. In the field or in excitement I like it carried low, stiff, and beating the hind legs." As in the case of the Gordon setter, there is no difference in the *points* from those of the English variety.

FIELD SPANIELS are divided into two principal groups, the springers or larger variety used for all sorts of covert game, and the cockers kept more especially for woodcocks, to follow which they must be of smaller size. The springer is again subdivided into the Clumber, Sussex, Norfolk, and other strains, while the cocker includes the Devonshire and Welsh varieties, as well as many other strains without special name.

THE SUSSEX SPANIEL is now almost extinct, being replaced by the Clumber which works mute, and is more easily kept under control, and therefore better for assisting the beaters in our modern battues. It is a very old breed, and is probably the earliest of all those used with the gun or net, though by some people the Clumber is considered to have the prior claim to seniority.

THE HEAD of this spaniel should be long and heavy; eye large and languishing, with the forehead prominently over it; muzzle square; lips somewhat pendulous; mouth large with the under jaw receding slightly, though not to the extent which could constitute a pig-jaw or snipe nose. Ears large, and lobe-shaped, well furnished with silky hair, and set on low down. Nostrils large, and the external nose large and lion coloured. Neck strong and muscular, with the crest slightly arched. Value of these points—head, 15; nose, 10; ears, 5; neck, 5: total, 35.

THE CHEST should be very wide, with round or barrel-like ribs, deep behind; shoulders well thrown back; body long and round. Value—chest, 5; shoulders, 5; body, 10; total, 20.

THE LEGS should be short and strong, well feathered to the feet before and behind. The FEET round, with the toes well arched and abundantly furnished with tan between the toes. *Points*—legs, 5; feet, 5.

THE LOIN must be very strong; back ribs very deep and round; tail (docked to about 9 inches in length) set low and carried considerably below the level of the back, never above it. *Points*—loin, 5; back ribs, 5; set and carriage of tail 5.

THE COLOUR is a golden liver without white. COAT waved (not curly), thick, shiny, and abundant. *Points*—colour, 5; coat, 5.

THE TEMPERAMENT must be cheerful, courageous, and docile. Value 10. Weight from 35lbs. to 40lbs.

This dog is not mute like the Clumber, but he is not noisy or babbling, seldom throwing his tongue after he is thoroughly broken. He is faster and more enduring than the Clumber, and bears water better.

THE CLUMBER SPANIEL has obtained his name from the seat of the Duke of Newcastle, where it is supposed the breed originated. At all events it was confined to that family until the middle of the nineteenth century. This dog is invariably of great length, low on the leg, and heavy in his frame; his weight varying from 40lbs. to 45lbs., and his height not exceeding 20 inches. He is devoted to the gun, but cares little for his master without that accompaniment. Dogs of this breed never throw their tongue when at work, being perfectly mute if pure in blood. They are capable of very high training, and a team of them, consisting of three or four couples, may be broken to do anything but talk. Hence,

where dogs are used in covert, the Clumber has become the general favourite, and it is a treat to shoot over a perfect team.

THE HEAD is large and long, and should be marked with lemon to a line just in front of the eyes, with a blaze up the face. Eyes large and thoughtful; nose and lips flesh or liver colour, sometimes cherry. Ears large, but not lobe-shaped or so heavy as those of the Sussex, and with less feather. Neck strong and long. Total value, 30.

BACK long and straight; chest wide and deep, showing scarcely any daylight under it. Shoulders wide and thick through them; loin straight but strong, with wide couples; back ribs very deep. Total value, 50.

THE LEGS must be straight, very stout and very strong. Forearm immense; shanks and hind legs well developed in bone, and clothed with strong muscles. Value, 10.

THE STERN should be set low (it is generally docked, but not always; if docked it is left fully 11 inches long). It is carried low and is tufted at its extremity like a setter's, but not to the same extent. Value, 10.

THE COLOUR must be a true lemon, the paler the better. Orange is often thrown, but is objectionable. Any other colour is a mark of impurity. The TEXTURE OF COAT is soft, shiny, silky, and nearly straight. Value, 10. These dogs last many years, and seldom give up work till incapacitated by old age or disease.

THE NORFOLK SPANIEL differs chiefly in length and colour from the Clumber, being shorter and of various shades of black, liver, and yellow more or less mixed with white. There are no positive signs by which he may be distinguished from the various mixed breeds of springers found throughout the country.

THE COCKER is a much smaller dog than the springer, seldom exceeding 18lbs. in weight for bitches, and 25lbs. for dogs. He is much more active than the springer, and of any colour more or less marked with white. The Devonshire and Welsh Cockers are, however, of a deep liver colour, without white, and closely resemble each other in other respects. They are nearly mute, but whimper slightly on a scent, and when well broken they distinguish each kind of game by the note they give out, especially the woodcock, of which they are particularly fond.

As these several breeds are not marked by the same special proportions as the Sussex and Clumber, the following scale of points may suffice for all, viz.:—head, 20; neck and shoulders, 10; ears, 10; back and loin, 20; feet and legs, 20; coat and colour, 10; temperament, 10. Total, 100.

WATER SPANIELS may be classed as English or Irish, besides which there is the Tweedside breed, which resembles a good deal in appearance a small ordinary English retriever of a liver colour.

THE OLD ENGLISH WATER SPANIEL is now seldom or never seen in any degree of purity, and it is scarcely necessary, or even possible, to describe it with any degree of certainty as to the truth of the particulars. I shall therefore pass on to the Irish breeds.

THE NORTH OF IRELAND WATER SPANIEL resembles greatly the old English dog except in having shorter ears without feather, and in being longer on the legs, which also are without feather. It is seldom met with in this country.

THE SOUTHERN IRISH WATER SPANIEL is, on the contrary, more frequently found in England and Ireland, and is highly prized since it was brought to perfection by Mr. McCarthy. He is a very intelligent companion, capable of being broken to retrieve with facility, and a most useful general attendant on the gunner, though specially good at his own vocation in the water. His height is about 21 or 22 inches, and his weight a little above 40lbs.

THE HEAD is capacious—forehead high, and eyes intelligent, though rather small. The face is clothed with short hair, over which hangs a top-knot of considerable length, coming forward to a peak; these two points being indicative of true breeding. Ears very long, measuring fully 26 inches across when extended.

BODY moderately long and very strong, covered with short crisp curls, which often become daggled towards the moulting season.

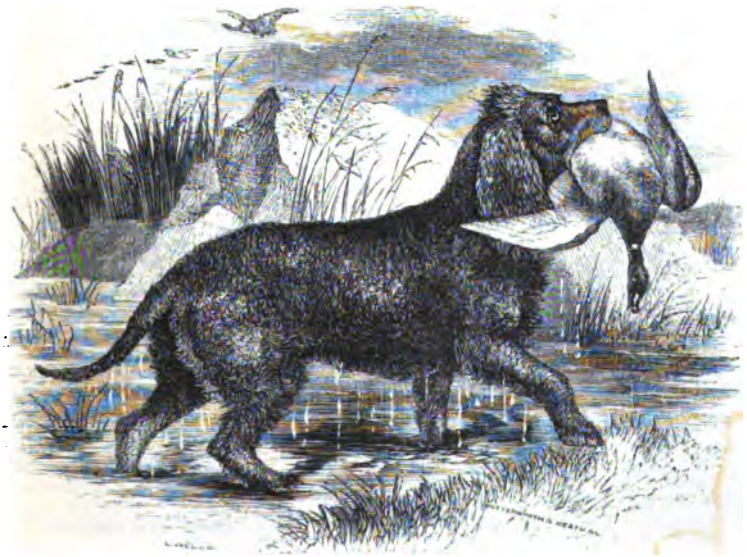
TAIL round, without feather, terminating in a sharp point, and rather short.

COLOUR a pure deep puce, without white. In other particulars these dogs should resemble the ordinary spaniel, so that it is needless to recapitulate them.

SUB-SECTION B.—THOSE DOGS WHICH KILL GAME WHEN FOUND FOR THEM.

IN THIS DIVISION the only dogs used in Great Britain are the Rough or Scotch, and the English or Smooth greyhound. The former is now seldom met with in any degree of purity except in the highland districts of Scotland and Wales, where his rough coat is supposed to render him less obnoxious to cold than the smooth dog. In public coursing he has for some years been invariably beaten by the smooth greyhound, and therefore his use is confined to

COCKER.



IRISH WATER-SPANIEL.

the districts I have mentioned, where the nature of the country forbids anything in the shape of coursing for sport, and "fox-hunting" is the order of the day. For this purpose he is well qualified, as he soon learns to stoop to a scent, and makes the best hunter in the world. In appearance he exactly resembles the deerhound, whose description is given under the head of retrievers, but in action he may be known from that dog by the different carriage of the head. With the exception of his rough coat he closely resembles the English or smooth dog, as described at page 199.

THE ENGLISH GREYHOUND has already been minutely described at page 177 *et seq*, and it is therefore useless to enter further into his qualities, external or internal. I append, however, what I consider the relative value of his points, so as to make this department complete as a reference. It varies a good deal from that of dogs whose breeding can chiefly be arrived at by external signs—*e.g.*, the stern, colour, and coat in the pointer and setter. In the greyhound, on the contrary, the pedigree is well known for many generations, and therefore, although the breeding may be guessed at from the appearance of the individual, it is far better to depend upon the evidence afforded by the *Coursing Calendar*, or, if that is not forthcoming, to avoid having anything to do with breeding from the strain. For these reasons, therefore, we should apportion the value of the several points as follows:

Head and neck	20
Frame and general symmetry	40
Feet and legs	30
Tail	5
Colour and coat	5
Total	100

SUB-SECTION C.—THOSE DOGS WHICH FIND AND KILL THEIR GAME.

THE VARIOUS HOUNDS used in the present day for the pursuit of the stag, fox, hare, rabbit, and otter are no doubt descended from one common ancestor, the nearest type of which now existing is the bloodhound; and, indeed, it is supposed by many high authorities that this dog is identical with the old Southern hound in all respects but colour. The latter was usually white, mottled with blue or badger colour, whilst the bloodhound has always been known to possess the deep black-and-tan by which he is now recognised. I shall, therefore, commence with the following truthful description of him extracted from *The Field* newspaper, in which it appeared in due course from the pen of an experienced judge:—

"THE QUALITIES FOR WHICH THE BLOODHOUND has acquired so high a reputation are the acuteness and certainty of its scent, and the pertinacity and sagacity with which it will track any object to the pursuit of which it has been trained. This propensity, originally made subservient only to the usual objects of the chase, has, in subsequent ages, been applied to the purpose of tracking felons and political fugitives. We are told in history that moss-troopers, children of the mist, and adventurers were not the only persons who were put to their shifts to evade the diligence of the sleuth-bratch or bloodhound, as Barbour and Henry the Minstrel relate events in which personages no less than the Bruce and Wallace were the principal actors. The former gives accounts of the king's repeated escapes from such pursuits, and the 'wily turns' whereby he threw the hound off the scent. On one occasion he waded a bow-shot down a brook, and climbed a tree which overhung the water. Barbour well describes the 'wavering' of the 'sleuth-hound ta and fra' when it was thrown out by the king's stratagem. Henry the Minstrel, in a romantically wild story, relates how, after a short skirmish at Black-Erne side, in which Wallace was worsted, the English followed up the retreat which he was forced to make with a Border bloodhound:

"In Gelderland there was that bratchet bred,
Siker* of scent, to follow them that fled;
So was he used in Eske and Liddesdail,
Whilet† she gat blood no fleeing might avail.

"Tradition and history tell us that not only was this noble hound used in the clan feuds of Scotland, in the Border contests of the debatable lands of the two kingdoms, but that in the Irish rebellion its extraordinary powers were taken advantage of without much regard to the claims either of justice or mercy. Sir Walter Scott gives a striking reality to the scene when he makes the stark moss-trooper, William of Deloraine, who had baffled Percy's best bloodhounds, allude to the pleasures of the chase, though he himself was the object of pursuit, in pronouncing his eulogy over Richard Musgrave with the sorrow of a warrior who had lost the stern joy afforded by a hero worthy of his steel:

"Yet rest thee, God! for well I know
I ne'er shall find a nobler foe.
In all the northern countries here,
Whose word is Snaffle, spur, and spear,
Thou wert the best to follow gear!
'Twas pleasure, as we look'd behind,
To see how thou the chase couldst wind,

* Sure. † Till.

Cheer the dark bloodhound on his way,
And with the bugle rouse the fray!
I'd give the lands of Deloraine
Dark Musgrave were alive again.

"In the same 'Lay' there is one of the best poetical descriptions of the bloodhound in action, if not the best; for though Somerville's lines may enter more into detail, they want the vivid animation of the images brought absolutely under the eye by the power of Scott, where the 'noble child,' the heir of Branksome, is left alone in his terror.

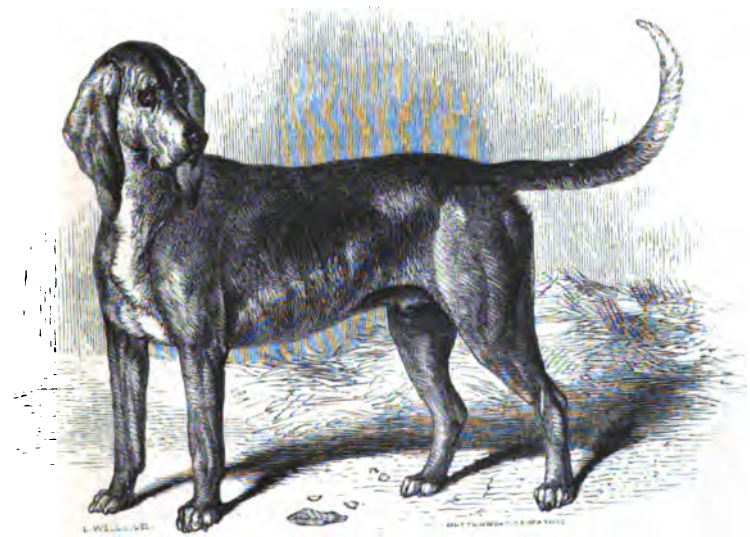
"Starting oft, he journey'd on,
And deeper in the wood is gone,—
For aye the more he sought his way,
The farther still he went astray,
Until he heard the mountains round
Ring to the baying of a hound.
And hark! and hark! the deep-mouth'd bark
Comes nigher still and nigher;
Bursts on the path a dark bloodhound,
His tawny muzzle track'd the ground,
And his red eye shot fire.
Soon as the 'wilder'd child saw he,
He flew at him right furiously.
I ween you would have seen with joy
The bearing of the gallant boy,
When, worthy of his noble sire,
His wet cheek glow'd 'twixt fear and ire!
He faced the bloodhound manfully,
And held his little bat on high;
So fierce he struck, the dog, afraid,
At cautious distance hoarsely bay'd,
But still in act to spring;
When dash'd an archer through the glade,
And when he saw the hound was stay'd,
He drew his tough bow-string;
But a rough voice cried 'Shoot not, hoy!
Ho! shoot not, Edward—'tis a boy!'

"Sir Walter also states that the breed was kept up by the Buccleuch family on their Border estates till within the eighteenth century, and then relates the last instance of an attempted 'Border foray' on record. But as the times changed, and civilisation advanced, and learning became diffused, the bloodhound sank from the nobler pursuit of heroes and knights to be the tracker of the deer and sheep stealer, and other petty felons. Our ancestors, in training the young dog for the pursuit of the more ignoble quarry, permitted him to be accompanied by a staunch old hound to the spot whence a deer or other animal had been taken on for a mile or two; the hounds were then laid on and encouraged, and, after hunting this 'drag' successfully, were rewarded with a portion of the venison which composed it. The next step was to take the young dog with his seasoned tutor to a spot whence a man whose shoes had been rubbed with the blood of a deer had started on a circuit of two or three miles; during his progress the man was instructed to renew the blood from time to time, to keep the scent alive. This circuit was gradually enlarged at each succeeding lesson, until the young hound became at last fully equal to hunt by itself.

"Gervase Markham, in his 'Maison Rustique,' speaking of hounds, says, 'The baie-coloured ones have the second place for goodnesse, and are of great courage, ventring far, and of a quicke scent, finding out very well the turnes and windings. . . . . They runne surely, and with great boldnesse, commonly loving the stagge more than any other beast; but they make no account of hares. It is true that they be more head-strong and harde to reclaime than the white, and put men to more paine and travaill about the same. The best of the fallow sort of dogges are those which are of a brighter haire, drawing more unto the colour of red, and having therewithall a white spot in the forehead, or in the necke, in like manner those which are all fallow; but such as incline to a light yellow colour, being graie or blacke spotted, are nothing worth: such as are trussed up, and have dewclawes, are good to make bloodhounds.'

"The colour of the true breed is stated to be almost invariably a reddish tan, darkening gradually towards the upper parts till it becomes mixed with black on the back. A white patch on the body, a white face or a streak down it, proclaims a strain which is death to all hope of purity of blood. Some breeders prefer the body flecked with white, and they hold that great purity is exhibited by the white tip at the end of the tapering stern. The coat should be close, rather silky, short, and strong, approaching to the texture of wool at the bottom. The forehead is long and narrow, the eyes deep and sunk, but expressive, and showing the third eyelid or haw very plainly, which gives an appearance of redness to the eye; the ears very long and thin, hanging straight down—even when excited they never rise at the roots, but continue to hang straight down, as if the face were smiling. Face and upper jaw to the nose, narrow; the nose itself very large, and the lips or 'flews' long, thin, and pendulous, so that, like the ears, which meet at the point of the nose, they will join under the chin. The neck remarkably long, and shoulders and forelegs very good, the legs being straight and powerful and the feet round and full. The throat rather hanging in its skin, or wrinkled, or what in hunting language is called 'throaty.' The back and loins

GREYHOUND.



BLOODHOUND.

P. 652.

FOXHOUND.

HARRIER.

broad, and the ribs and chest deep, with the brisket well let down. The stern well set on, long, very plaint or lashing, tapering to a fine point. Toe-nails black. Temper very touchy, and when aroused very savage, but forgiving, and anxious in a moment after biting, by smiles and fawning to express regret and ask forgiveness. The tongue when thrown is deep, mellow, and prolonged. Height 28 inches, but some well-known breeders fix the standard at not less than from 30 inches to 33 inches.

"The most celebrated breeders of late years have been Lords Yarborough, Fitzwilliam, and Faversham; the Honourable Grantley Berkeley; Mr. Jennings, of Pickering, Yorkshire; Mr. Cowen, of Bladon-upon-Tyne; and Mr. Harrison, of Dudley. Of the various dogs exhibited from the above kennels, Mr. Jennings's Druid, sold two years ago to Prince Napoleon, is in our opinion the best specimen of the breed, and we have accordingly reproduced him on wood. Mr. Cowen's Druid is also a grand dog, and is now in his prime; but his head is not equal to that of Mr. Jennings's old favourite. Our artist has faithfully rendered the old dog as he appeared when first exhibited, and he must not be compared with the poor fellow as shown at Islington after he had been sent to France, being then already in the sere and yellow leaf.

"The *points* of the bloodhound may be estimated according to the following scale, viz.: Head, 15; neck, 5; legs, 10; feet, 10; shoulders, 15; back girth and back ribs, 10; loin, 10; hind quarters, 10; colour and symmetry, 10; stern, 5—total, 100."

The Staghound as a distinct breed is completely unknown in this country, all those packs which hunt stag, with the exception of the "Devon and Somerset," being pure foxhounds, and the latter being more or less crossed with that variety.

The Modern Foxhound has had more attention paid to his shape, and has been kept more pure, than any other breed of dogs in existence. Most kennels of any standing possess stud-books going back from 80 to 100 years, and can trace the pedigree of every hound in their packs for that time. This is almost equal to that of the English thoroughbred horse, and far greater than that of the greyhound, few pedigrees of which go back in all their lines more than ten generations. "Cecil" has lately published the Hound Stud-Book, which proves this statement without a doubt, and makes the study of the various strains of the foxhound doubly interesting. I have already alluded to the general characteristics of the breed in Book II, Chapter 1, and it is therefore only necessary here to describe his points, which are as follows:—

The Head varies a good deal from the comparatively heavy form characterising the Beaufort Grasper, to the snipe-nosed light shape of the Puckeridge. It should, however, in any case be light, airy, and sensible, yet full of dignity. There should be a slight tendency to chop without actual flew, and the forehead should be a little wrinkled. Circumference of skull in front of the ears, 16 to 17 inches, and at least 4½ inches from the eye to the point of the nose. Neck long and clean, the least looseness or approach to throatiness is tabooed. Where it joins the head it must be fine, and gradually deepen towards the shoulders. Length of neck is necessary to allow the hound to stoop to a scent without losing pace. Ears set on low down, and carried close to the head—of course rounded; total value, 20.

The Back must be straight, wide, and muscular, with an equally strong and square loin, very slightly arched. Back Ribs especially deep and wide, not flat. Chest deep, and at the same time, if possible, wide, increasing behind the elbows to at least 30 inches, sometimes 31 inches. Shoulders long, sloping, and powerful, and elbows perfectly straight and well let down; back and loins, 20; shoulders, 20.

The Forelegs, it is insisted by huntsmen, must be as straight as possible, without the slightest tendency backwards. This, however, I believe to be an exaggerated conception of the form which is best for standing work, as I have no doubt a very slight angle at the pastern is advantageous. The bone of the leg must be as large as possible, and the muscle of the forearm, as well as the tendons of the pasterns and toes, proportionably strong. If the foot is not perfectly straight it must turn in, not out. In shape it should be round and cat-like, but very highly-arched toes are apt to give way. Sole hard and thick. Value of legs and feet, 20 points.

The Hind Quarters must be as strong as possible, wide as well as deep. Bone of pastern strong and large; hocks strong and straight. Value, 10.

The Stern should be carried gaily upwards without hooping; it should be slightly rough beneath its lower edge, but not feathered; point straight. The Coat should be dense, smooth, and glossy. Colour, black, white, and tan, black and white, or pied with hare, badger, red, tan, or yellow, which colours are preferred in the order I have given. Value, 10, in conjunction

with the general symmetry. Height from 22 to 25 inches; the best average is 22½ inches for bitches, and 24 inches for dogs; or for a mixed pack, 23 inches.

THE HARRIER comes next in order, and, like the foxhound, this variety has been alluded to at some length at page 122.

HIS HEAD is heavier in proportion than that of the foxhound, and the ears of thinner texture; they are sometimes slightly rounded, but the general practice is to leave them in their natural state.

IN OTHER RESPECTS there is little difference between the two breeds, though the eye of the master will readily pick out a true harrier from a foxhound without seeing the head. THE POINTS are the same as in the foxhound.

THE BEAGLE in shape is a dwarf southern hound, and resembles that dog much more than either the foxhound or harrier. I subjoin the excellent description of some capital packs as now existing, given in the recent series of articles on the dog in the *Field* newspaper.—"The larger sort of beagle is full of symmetry, but he is apt to be throaty. He has an extraordinary power of scenting. Even a cold scent appears evident to him. We have observed this power to carry on the line when the pack has had to cross a turnpike road, and the foil of sheep or cattle. We have on more than one occasion seen the whole pack go through such difficulties like miniature bloodhounds.

"As with harriers so with beagles, the bitches are in our opinion the most symmetrical, and we have seen some specimens very closely approaching the comeliness of a Boughey or Corbet harrier.

"The smaller beagle, known as the rabbit beagle, is the most elegant of the whole family. We have seen many packs of these charming little hounds, and occasionally a diminutive pet example has been exhibited at our dog shows. We have seen packs where the standard has been 13½ inches. Captain Hall, of Osmington Lodge, near Weymouth, hunts a pack of 12 inches or over. Mr. Henry Pickard Cambridge, of Bloxworth, kept a pack for driving his heath and furze country, about 18 inches high, and he had amongst his hounds two or more couples of the rough beagles, closely resembling the otter hound in miniature. One of these, a bitch called Mischief, a black-tan and white hound, came from the kennel of a Mr. Hetty, near Cranbourne. These rough beagles have the full ear and a thorough hound character about them, but they have not the tongue. Their cry is sharp and ringing, and they have not enough of it. We believe them to be produced or to have been bred by crossing with rough terriers of some description, and that there is not, and never has been, a rough *true beagle*. Yet for work they answered. They will face furze or brambles without flinching, and they are remarkably free from running hares.

"The smaller beagle is hardly ever used for or with the gun. It is kept entirely to rabbit-hunting, and a pack of six couples, not more than 9 inches in height, will run down a rabbit in seven minutes. Hounds of this size must be very powerfully made to get through the thick furze brakes, and to keep up their work from eleven to four o'clock. They must be little working models of the foxhound, and they should be very powerful in their hind quarters. Indeed, the thighs and muscles in the best hounds appear out of proportion.

"A diminutive pack of rabbit beagles, the property of Mr. Crane, of Southover House, near Bere Regis, Dorset, contains the best "patterns" we have ever known. We have seen them on a cold bad scenting day work up a rabbit and run him in the most extraordinary manner, and although the nature of the ground compelled the pack to run almost in Indian file, and thus to carry a very narrow line of scent, if they threw up it was but for a moment. Mr. Crane's standard is nine inches, and every little hound is absolutely perfect. We saw but one hound at all differing to his companions, a little black-tanned one. This one on the flags we should have drafted, but when we saw him in his work we quite forgave him for being of a conspicuous colour. Giant was perhaps the very best of the pack, a black white-and-tanned dog hound, always at work and never wrong. He has a capital tongue and plenty of it. A bitch nearly white, Lily, has the most beautiful points we have ever seen, but is nearly all white, as her name implies. Damper, Dutchman, Tyrant, are also all of them beautiful models.

"We give the measurement of Damper: Height, 9in.; round the chest, 16in.; across the ears, 12in.; extreme length, 2ft. 4in.; eye to nose, 2⅛in.

"The beagle was in great force in the reign of Queen Elizabeth, and 'singing beagles' were bred as small as possible. A pack of the Virgin Queen's (*it is said*) could be carried in a man's glove.

"Mr. Crane's standard is kept up with great difficulty. He has reduced the beagle to the minimum. Many of his mothers do not rear their offspring, and distemper carries them off in troops. Single specimens may occasionally be found excessively dwarfed and

BEAGLE.

OTTER-HOUND.

proportionately deformed. These hounds would perhaps be wanting in nose or intelligence if they could be produced in sufficient force to form a pack; but Mr. Crane's are models of symmetry and power, and are as accomplished and as steady as Lord Portsmouth's hounds.

"The Southover beagles are as small as it is possible to breed them (in sufficient numbers to form a pack) without losing symmetry, nose, intelligence, and strength; and we hold those to be the best which possess all the requisites for rabbit hunting in the smallest compass. Our experience warrants us in asserting that it would not be prudent to attempt forming a pack of less height than nine inches.

"We sincerely wish every pack of beagles was multiplied by twenty; and we express this wish not only because we believe hunting on foot a most healthy and inspiriting exercise, but because we are bitter foes to the rabbit, which has been the bane for years of the English yeoman. A pack like Mr. Crane's, steady from hare and hunted on heath and common with ability and discretion, could in no way injure fox or hare hounds, and would provide recreation for many an embryo foxhunter. We believe we are correct in stating that ten or more of the most celebrated masters of the day learnt their first lessons with the merry beagles.

"The dwarf beagle should be formed on the model of the foxhound. He should be a 'Pocket Lexicon.' It is not customary to round his ears, and we hope to see the day when no hound's ears will be cut at all. He should be of the hound colour and smooth-coated.

"We hold the rough beagle to be a mistake."

The *points* of the beagle are similar to those given for the foxhound, and I refer to the article on that animal for their numerical value.

THE OTTERHOUND is still more like the old Southern hound than the beagle, and being of the same size as the former, and only differing from him in having a long and rough coat.

His head is heavier in mould and in its flews than that of the foxhound, eyes deeply set like those of the bloodhound, and with the same deep expression often amounting to engaging; forehead long and narrow, but less so than that of the bloodhound; nose large and black, with a decidedly wiry haired muzzle; lips ample and pendant; ears large, thin, and coated with strong wiry hair, but not feathered at the edges like those of the spaniel or setter; forehead wrinkled deeply; neck long and muscular, with a loose skin and some throatiness. Value: head, 15; ears, 10; neck, 5.

CHEST deep but not wide; elbow let down very low; back ribs very deep; loins strong and straight, but looser than those of the foxhound; shoulders powerful and sloping. Value: shoulders, 15; back and loin, 10; back ribs, 10.

ARMS very large and powerful; ankles short, and the feet round, but more open than those of the foxhound; thighs large and strong, with powerful hocks. Value: hind quarters, 10; legs and feet, 10.

The Stern should be coated moderately, but not increasing, to the tip, which should be well pointed, whilst the root should be large; carriage like that of all hounds. COAT hard, wiry, and abundant; the Colours may be black, white, and *pale* tan; mixed, or black pied, with the colours strongly linked with white. Value: stern, 5; colour and symmetry, 10.

The *origin* of this hound is uncertain, but he is most probably descended from the old Southern hound or talbot.

It may seem out of place to class the FOX TERRIER with the hounds, but as he is kept specially for the purpose of being used in their aid when a fox is to be bolted, he is certainly not out of place in this sub-section. In the early part of the present century, when hunting the fox was considered of more interest than galloping after him, one or two terriers were added to the pack, and were not merely kept in readiness to bolt him from his earth when driven to ground by the hounds, but regularly drew each covert with them, and throughout the run followed the line as well as they could, being generally in at the death before the breaking up was over. When, however, the fields of horsemen increased in numbers from two or three score to two or three hundred—when their riding became either a steeplechase between those who went straight, or a flat race among the "macadamisers;"—and when hounds were bred fast enough to get away from all, the little terrier stood a poor chance of escaping with life and limb, and his services were confined to underground work, for which he is now kept handy to the part of the country which is to be hunted, his absence being supplied by the nearest rat or rabbit terrier that can be obtained. In the cub-hunting he is specially serviceable, and, indeed, it is for this purpose that he is chiefly kept by the huntsmen of our various packs; for it is but seldom that a regularly entered fox terrier is at hand when a fox is run to ground during the season.

There has been a good deal of controversy among those interested in this breed on the subject of the bull-cross, but the preponderance of evidence is certainly against it. The chief argument is that this cross makes the dog lie too close to his game, and punish him too much if he can reach him, often absolutely preventing his bolting by hanging on to him. In any case, it is admitted that the strain should not be made visible in the mouth, and that the teeth should be therefore quite level. What is really wanted is a dog small enough to enter any drain or earth which will admit a fox, and consequently not above 16 lbs. weight, while he should be at least 14 lbs. to give him strength enough for the task which he has to perform.

The HEAD should be flat and narrow, forward gradually widening towards the ears, which must be small and fold over so as to keep out the dirt from their interior in digging, being also set on forward and carried close to the cheeks. Jaw strong and well clothed with muscle; mouth level and well furnished with teeth; eyes small, keen, and full of expression; nose pointed, long, and tipped with black. Ears, 10; nose, 10; jaw, 5; eye, 5; total, 30.

BACK rather long but strong; chest full and round, not deep; neck light and airy, coming nicely out of oblique but powerful shoulders; quarters and thighs muscular. Chest, 10; back, 10; shoulders, 5; neck, 5; quarters, 5; total, 35.

The LEGS and FEET must be strong and straight, in fact as nearly as possible resembling those of the foxhound himself. Legs, 10; feet, 10; total, 20.

The SYMMETRY also must be appreciated on the same principle as that of the foxhound, but it is important as showing breeding and general fitness for work. Value, 10 points.

COLOUR is only to be regarded as leading to the dog becoming easily seen either under ground or above; hence there must be a preponderance of white. With this external configuration the fox terrier must be hardy in constitution so as to withstand cold, wet, and fatigue, and he must have that degree of courage which will induce him to face any amount of punishment. Possessed of all these qualifications this dog becomes an excellent companion independently of his use to the M.F.H., and the breed has been in high favour for this purpose since the introduction of dog shows; from 30*l.* to 60*l.* having sometimes been given for a prize winner.

The TRUFFLE dog is little known out of the districts which furnish that esculent, in our knowledge of which we are far behind the Germans, French, and Italians. Our Continental neighbours are far more skilled, both in their preservation and production. They can dry them, or preserve them in oil, vinegar, or brine; and in neither case do these conserves lose much of their aroma, flavour, or nutritious quality. One Italian species is produced by scattering a shallow layer of soil upon a porous slab of stone, and occasionally moistening it with water; another, by slightly burning, and subsequently watering, blocks of hazel-wood; and a third (a species of *Agaricus*) is cultivated by placing the grounds of coffee in places favourable for its growth. The market returns of Rome show that as much as 4000*l.* a year are expended on these productions; and that the peasantry of France, Germany, and Italy in many places subsist to a great extent upon them, is an established fact.

The truffle—an edible underground fungus—is classed by Berkeley with the *morel*, as one of the *Ascimycetes*, because in these the "spores," or organs of reproduction, are arranged in *asci* (tubular sacs, or vesicles). The best writers on fungi have arrived at this learned conclusion; but in spite of all their discoveries, and their elaborate remarks on "spheroidal cells," and "spores," and "fructification taking place in some particular membrane," we believe attempts to cultivate the truffle have failed.

Science has ascertained that they form an intermediate link between the animal and vegetable kingdom, for they do not absorb carbonic acid from the air and give out oxygen, but, like animals, they absorb oxygen and give out carbonic acid.

The truffle is found in many districts of France, Spain, and Italy; and in other parts of these countries, doubtless (as in England), it exists, though it has not been discovered.

In this country it may be found on almost every chalky down, especially where plantations of beech flourish, and in many gentlemen's parks, and on lawns. Hampshire, Wilts, Dorset, and Kent, all these counties produce truffles of rich quality and in great abundance. Beneath the beech, the cedar, the lime, the oak, the hazel, the Scotch fir, it is frequently to be found in clusters, one, two, or three feet apart. It is known to be in Tedworth (the seat of the late Mr. T. Assheton Smith); at Charbro Park, Dorset (the seat of Mr. Drax); at Olantigh Towers, in Kent; and at Holnest House, in Dorset (both seats belonging to the same gentleman); whilst Kingston Lacey, in Dorset (the property of the Bankeses), produces both morels and truffles. Truffles are

CURLY-COATED RETRIEVER.

P. 657.

WAVY-COATED RETRIEVER

FOX-TERRIER.

P. 657.

TRUFFLE DOG.

also found at Eastwell Park, Kent; at Sir J. Sebright's, in Beechwood Park; at Lord Barrington's; at Lord Jersey's; at Longleat, Wilts; at the Countess Bridgewater's; at Lord Winchilsea's; and, we believe, at the Earl of Abingdon's seat, near Oxford.

In Italy, this fungus is hunted with a pig (a fact confirmed by Youatt); in France (as with us), the truffle-hunter depends upon his dog. The breed is rare, and the men dislike to sell them. It is said that, about two hundred years ago, an old Spaniard brought two dogs into Wiltshire, and made a great deal of money by the sale of truffles which his dogs found for him; that at his death he left his money and his dogs to a farmer from whom he had received some kindness, and that they derive their dogs from those he left that farmer.

The truffle-dog is a small poodle (nearly a pure poodle), and weighing about 15lb. He is white, or black-and-white, or black, with the black mouth and under-lip of his race. He is a sharp, intelligent, quaint companion, and has the "homeing" faculty of a pigeon. When sold to a new master he has been known to find his way home for sixty miles, and to have travelled the greater part of the way by night.

They are mute in their quest, and should be thoroughly broken from all game. These are essential qualities in a dog whose owner frequently hunts truffles at night — in the shrubberies of mansions protected by keepers and watchmen, who regard him with suspicion. In order to distinguish a *black* dog on these occasions, the hunter furnishes his animal with a white shirt, and occasionally hunts him in a line.

They are rather longer on the leg than the true poodle, but they have exquisite noses, and hunt close to the ground. On the scent of a truffle (especially in the morning or evening, when it gives out most smell), they show all the keenness of the spaniel, working their short-cropped tails, and feathering along the surface of the ground, for from twenty to fifty yards. Arrived at the spot where the fungus lies buried some two or three inches beneath the surface, they dig like a terrier at a rat's hole, and the best of them, if left alone, will disinter the fungus and carry it to his master. It is not usual, however, to allow the dog to exhaust himself in this way, and the owner forks up the truffle and gives the dog his usual reward, a piece of bread or cheese; for this he looks, from long habit, with the keen glance of a Spanish gipsy.

The truffle-hunter is set up in business when he possesses a good dog; all he requires besides will be a short staff, about 2ft. 5in. long, shod with a strong iron point, and at the other end furnished with a two-fanged iron fork. With this implement he can dig the largest truffle, or draw aside the briars or boughs in copse-wood to give his dog free scope to use his nose. He travels frequently thirty or forty miles on his hunting expeditions, and with this (to use a business term) inexpensive "plant" keeps a wife and children easily. We know personally one blue grizzled dog of the old truffle breed which supports a family of ten children.

The truffle-dog is a delicate animal to rear, and a choice feeder. Being continually propagated from one stock, he has become peculiarly susceptible of all dog diseases, and when that fatal year comes round which desolates the kennel in his quarter, many truffle-hunters are left destitute of dogs, and consequently short of bread; for they will not believe (as we believe) that any dog with a keen nose and lively temper may be taught to hunt and find truffles.

The education of the dog commences when he is about three months old. At first he is taught to fetch a truffle, and when he does this well and cheerfully, his master places it on the ground, and slightly covers it with earth, selecting one of peculiar fragrance for the purpose. As the dog becomes more expert and keen for the amusement, he buries the truffle deeper, and rewards him in proportion to his progress. He then takes him where he knows truffle to be abundant, or where they have been previously found by a well-broken animal, and marked. Thus he gradually learns his trade, and becomes (as his forefathers have been for many generations) the bread-winner for his master and all his master's family; unless he is so fortunate as to become *attaché* to some lordly mansion, or possibly to a Royal palace, in which case he is a fortunate dog indeed.

Sub-Section D.

Those Dogs which Retrieve Game previously wounded by Man.

The dogs of this division are very useful, and in the present day, when driving and walking up game are practised extensively without pointers or setters, the retriever is an indispensable accompaniment to every shooter who indulges in this kind of sport. There is no distinct breed recognised, though the cross of the spaniel or setter with the small Newfoundland has become now quite as much so as the modern Leicester or South-down sheep. Indeed the recurrence to this cross is seldom employed in breeding re

trievers, males and females of that strain being chosen on each side. I have a great fancy that the modern rough St. Bernard, of which the Rev. J. C. Macdona has some magnificent specimens, will, if crossed with good setter blood, produce an excellent result, and I intended to try the experiment, that gentleman having kindly given me a daughter of his celebrated Tell and Hedwig for the purpose, but unfortunately the puppy died of abscess in the head. Intelligence and docility are the qualities which must be looked for, and these are possessed by the St. Bernard in the highest degree, while the setter must furnish nose and the desire to hunt game.

THE MODERN RETRIEVER is now almost always a cross of the setter and Newfoundland (showing the smooth or wavy coat) or of the water spaniel (generally Irish) with the same dog, in which case the coat is curly. Very often the two kinds are intermixed, the result of which is a coat showing more or less of each texture. There has been a good deal of discussion on the relative value of these strains, and the question is by no means settled. My own impression is in favour of the smooth, wavy coat, indicative of the setter origin rather than the spaniel, as I believe this cross is more docile and better fitted to be broken to the extent of implicit obedience which is required. It is a great nuisance to have to work a retriever in a slip, but there are very few curly-coated dogs with which it can be dispensed, whereas it is comparatively easy with the smooth kind.

THE RETRIEVER PROPER should have a long head, wide and flat, and a moderately large eye full of intelligence and docility; mouth capacious; ears small, lying close to the face and set low, with short hair only on them; nose large; neck long; and face covered with short hair only. Head 10, nose 10, ears 2, neck 8. Total 30.

THE LOINS AND BACK must be strong and firmly coupled, without which this big heavy dog soon tires, and as he sometimes has to carry a hare for half a mile, and to jump gates and brooks with her in his mouth, this point is of great importance. Quarters also must be thick and clothed strongly with muscle. Shoulders strong and oblique, chest broad and also deep. Loins and back 10, hind quarters 10, shoulders 6, chest 4.

LEGS long, straight, and muscular; feet round and compact; toes well arched and not spreading; hocks powerful; stifles strong and wide. Value: feet 6, legs 6, hocks 6, stifles 2. Total 20.

COAT either flat and wavy, or short, curly, and crisp; the former being in my opinion the best, but in dog-shows there is generally now a prize for each kind. Colour either jet black without white, or liver, also without white, or black and tan, or black with brindled legs; or, lastly, whole brindled. Stern well feathered, rather short, but tapering to a point, and carried gaily but not over the back. Colour and coat, 15; stern, 5. The height should be at least 24 inches, weight from 70 to 80lbs.

THE IRISH WATER SPANIEL, as well as the English dog of the same breed, are often used as retrievers proper, but I have classed them with the other spaniels, since they are generally used for seeking live as well as dead game.

CROSSES of the terrier and spaniel, and true terriers, are also sometimes employed as retrievers; and, indeed, foxhounds, bloodhounds, and pure setters are occasionally broken to this trade.

THE DEERHOUND is a distinct breed having been for many years employed to hunt down wounded deer, and, if necessary, bring them to bay till the deerstalker comes up to give them the *coup de grace* with his ball or knife. In the present day, as I have before observed, he closely resembles in appearance the rough Scotch greyhound, but having each been kept to their separate work they show their specific natures distinctly when taken to their respective game.

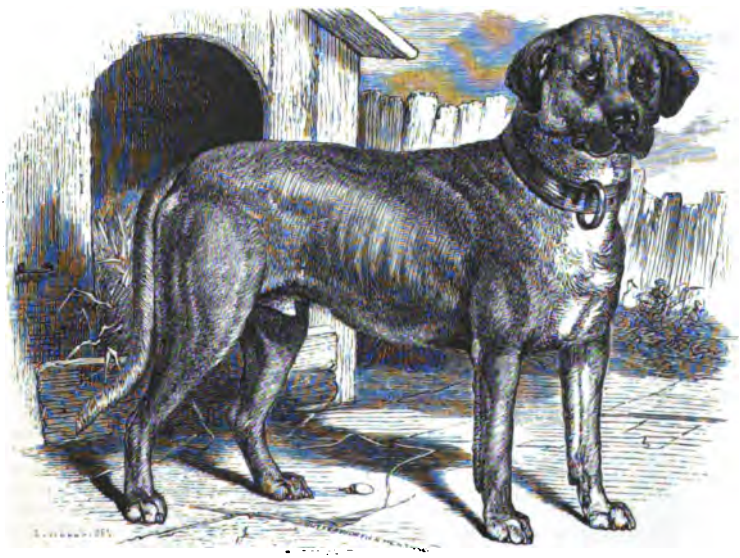
The POINTS of this dog are the same as those of the greyhound, given at page 651, except that he is at least 28 inches high, with a girth of 32 inches. In colour he must be fawn, yellow, brindled, or grey, with a rough coat, especially about the face. The VALUE of his POINTS may be placed as follows:—Head 25, neck 10, shoulders 15, legs 15, feet 10, loin 15, temperament 10. Total 100.

SUB-SECTION E.

USEFUL COMPANIONS OF MAN.

Under this division are included those dogs which serve some purpose in their companionship, either as guards of man or his herds or flocks; thus, the Newfoundland, the mastiff, the St. Bernards, the bulldog, the bull-terrier, and other larger terriers, the colly, and the drover's dog, all come under the designation, leaving the toy dogs to the next sub-section. The old ENGLISH mastiff as being a native of this country should stand at the head of this list, though he is by no means so generally met with as the Newfoundland. Like the bulldog, he

THE DEERHOUND.



OLD ENGLISH MASTIFF.

is peculiar to this country, though a near approach to him, the Cuban mastiff, is met with in the West Indies and America. Whether any of the modern strains can be shown to be really indigenous in their origin it would be difficult to say, as their pedigrees cannot be traced for many generations. Mr. Edgar Hanbury, of Eastrop Grange, and Mr. Lukey, of Lock's Bottom, Bromley, in Kent, have bred the best specimens of the English mastiff of late years, and neither of these gentlemen can trace back their blood far enough to enable us to decide whether they are purely English or not. Mr. Hanbury commenced with a bitch without pedigree, but a beautiful animal. This bitch was put to a dog from Wales, also without pedigree, so that his kennel dates from his own knowledge. Mr. Lukey began with a brindled bitch bred by the Duke of Devonshire, which he crossed with Lord Waldegrave's celebrated dog "Turk," a black-muzzled fawn, of great courage and symmetry. The produce consisted of two brindled bitches, which he put to the Marquis of Hertford's Pluto, since which, until very lately, he has bred in-and-in from their descendants. Four or five years ago, however, he obtained possession of his present stud-dog Governor, by Lieut. Garnier's Lion, out of Countess, a daughter of Mr. Bruce's Duchess, and this dog has proved a most valuable sire, having been extensively used by Mr. Hanbury and other breeders. Mr. Hanbury's Prince, descended from Governor and Duchess, is a magnificent specimen, and quite as good as or better than his celebrated sire.

The remarkable power and courage of the mastiff render him peculiarly fit to be the dog of the keeper, when associated with the fine temper which ought never to be dispensed with, since a savage mastiff is a dangerous brute, and should never be unloosed from his kennel. A well broken one of good temper may be taken anywhere, and is far more trustworthy than the Newfoundland, and quite equal to the St. Bernard. The sense of smell is acute, and the mastiff has been known to draw up to a covey of partridges like a pointer.

THE POINTS of this breed are as follows: The head should be massive, with a broad and flat forehead; ears small and wholly pendent, lying close to the cheek, though set on farther back than in the hound, pointer, and setter; eyes small, but mild and intelligent in expression; face short, with a square muzzle, not tapering towards the point of the nose; teeth level, but sometimes there is a slight projection of the lower; flews deep; neck muscular; with the head well set into it, showing a slight prominence at the upper point of junction; body very large, with deep and wide chest, well ribbed up, and a powerful loin; legs straight, with great bone (this point is not generally well displayed, owing to confinement, as is also the case with the next); feet round and close; coat short, and tail fine, but with a very slight indication of roughness—it should be carried high when the dog is excited; colour most to be desired is fallow (fawn), with black muzzle, and the richer the black the better; next to this comes brindle, then red with black muzzle, or black; sometimes there is a considerable admixture of white, but this is not desirable. Height, from twenty-nine to thirty-one inches in the dog, and even more if a fine symmetry can be obtained, as in the dog which illustrates this article, but his good shape is seldom met with in so large an animal; bitches are two or three inches lower. A dog standing twenty-nine inches high ought to weigh, in good condition (not fat), from 120lb. to 130lb.

The relative value of the above *points* is the same as in the Newfoundland, namely: Head 30; temper, 20; neck, 10; feet and legs, 10; back and loin, 10; colour and coat, 10; courage, 5; stern, 5—total, 100.

The following are the dimensions, in inches, of Mr. Lukey's Governor, whose portrait illustrates this article: Height at shoulder, 33; length, nose to tip of tail, 86; girth, 40; girth round loin, 31; round fore leg, 10¾; round thigh, 22; round head before ears, 28; skull, 9½; muzzle, 5½—conjoined, 15; ears, 7½. Weight, 180lb.

THE NEWFOUNDLAND DOG is of two distinct breeds, the large and the small, the latter being also called the St. John or lesser Labrador. The former is the most common in this country, and is a dog of massive form, possessing great character and intelligence. In Newfoundland he is used as a beast of draught, being harnessed to sledges, which his great form, large feet, and endurance enable him to draw over the snow, while his thick coat and hardy constitution render him little amenable to the effects of cold and wet. As a water dog he has no equal, and he floats or swims for hours without suffering from the immersion. His patronage of children, especially when in danger of drowning, is one of the most remarkable features in the canine race, and the way in which he suffers himself to be pulled about by them makes him, when not exceptionally ill-tempered, the pets of many a family. Still it will not always do to trust

him, and I have known many examples which were absolutely dangerous even to their masters when excited by deprivation of food or anger against some offender of their own species.

THE HEAD is remarkably grand and full of character, with an expression of mildness and benevolence shared with this breed by the St. Bernard. Across the eyes the breadth is great with a flatness behind them, before which the skin is wrinkled, but without any perceptible forehead. Eyes small, bright, and intelligent, deeply set, but not showing the haws, and gives the appearance of being bloodshot, so remarkable in the bloodhound. Ears small and set low, hanging close to the face, and with little hair on them. Nose large, muzzle long and smooth; mouth capacious with level teeth. Neck shorter than in most breeds. *Points*: Head, 30; temper, 20; neck, 10.

BACK often weak and slack in the loin, but this is a fault which, though common, is not universal. There is also very often a want of depth in the back ribs which ought not to be passed over. Back and loin, 10.

FEET AND LEGS large and muscular, the former being too flat for much work over hard ground, and are more adapted for the snow of his native land, or for swimming. Feet and legs, 10.

COLOUR black, or black and white, the former greatly for choice, with as little white as possible. Sometimes the black has brindled legs, or of a rufous dun colour, and occasionally fully bred dogs are met with brindled, or rufous dun mixed with white. There are several varieties in texture of coat. The smooth dog is almost as free from any approach to feather as a mastiff. If this dog has any tendency to feather, it will declare itself in profile just below the set-on of the head. His coat, if well examined, will be found more dense than a mastiff's, and of greater volume.

The shaggy-coated Newfoundland has a smooth face, but within two inches of the skull the coat suddenly elongates, and except that he is very clean to the ankle of his neck, he is thoroughly feathered in his outline. His coat generally parts down the back, and this parting is continued to the end of his tail, which is bushy and and carried very gaily. His hind legs are close-coated from the hock, and his feet all round are nearly as free of feather as a cat's.

A very old and favourite curly-coated breed, as we are informed, exists at St. John's; but I have a dislike of the curly coat, however, and prefer the smooth dog for duck-hunting, and the shaggy coat for every other purpose. Colour and coat 10 points.

THE STERN is long and bushy, usually slightly turned on one side, and carried in a trailing fashion. The gait is rather loose and waddling, but this is a defect owing to the slackness of loin. Carriage, 5; stern, 5. In height this dog is sometimes 33 or 34 inches, averaging 29 or 30.

THE ST. BERNARD DOG has been so well described by an experienced hand in the *Field* newspaper, that I extract his account *verbatim*:—

"About the year 962, Bernard de Menthon built two "hospitia," one on Mount Joux, where a temple of Jupiter stood—constructing his hospice from the ruins of the temple; the other on the road that leads over the Grison Alps at Colonne Jou, so named from a column dedicated to the same heathen diety. The benevolent builder presided over both hospitia for 40 years, and left to his monks the duty of affording refuge to travellers, and searching for those who were lost in the snow. St. Bernard's portrait and that of his dog on the same panel is still in existence, and the dog appears to be a bloodhound. The Hospice of St. Bernard Pass stands 7668 feet above the sea-level, and is undoubtedly the highest inhabited spot in Europe. Nine months in the year the snow is thick on the ground, and in the very worst part of winter from 1500 to 2000 of the poor inhabitants of the low countries pass over the mountains. During this inclement season all travellers from Martigny are desired to pass the night at the first house of refuge. Every morning a servant, accompanied by a St. Bernard dog, descends from the hospice to take all the travellers under his direction. The dog leads the way, for he can not only discover the buried traveller by his marvellous powers of scent, but he can also to a certainty keep the track, in spite of snow-storms and bewildering drifts. The dogs have been used by the monks in these ways, *and in no other*, for years, and they have acquired a well-deserved high reputation for perseverance, sagacity, and power of scent.

"The old breed died out many years ago, and we doubt whether the monks have possessed the present race of dogs more than 40 or 50 years.

"About 40 years ago, or a little more, all their dogs and several servants were swept away by an avalanche; but two the monks had given away were returned to them, and the breed was thus preserved. One of the St. Bernard dogs, Barry, a brindled-and-

NEWFOUNDLAND.

MOUNT ST. BERNARD. P. 660.

white one, saved the lives of 42 persons, and was vigourous and active at the age of 15 years, although they generally succumb to rheumatism in their tenth year. He is preserved in the Berne Museum, wearing an iron collar with large spikes, which had often protected him from the wolves. We are told he had discovered a man lost in a snow-drift, and, being mistaken for a wolf, the poor fellow received a blow on the head, and *'il était obligé de mourir.'*

"At the time we were the guests of the monks, they possessed but three dogs, Barry, Pluto, and Pallas. The finest specimen had goitre or bronchocele, and wore a muzzle, as he was of an uncertain disposition; and a very fine bitch was expected soon to add to the strength of the company. Two dogs were placed out at some neighbouring hospice. We purchased a young dog at the Hotel des Alps (on our way home) from the proprietor; the mother had been procured from the hospice; the father was the fine specimen we have seen there. Subsequently we found him very intelligent and good tempered; he was very pleased to carry and fetch, and he appeared to have an excellent nose; but, alas! when nearly 12 months old, like Barry, *'il était obligé de mourir.'* All of these dogs were *orange tawny;* they had white legs, flecked *slightly* with orange, white belly, white collar round the neck; the head remarkably fine, majestic, and full of character; the ears small, and set low; the eyes deeply set, a crease between them, giving a mastiff character to the whole animal; from the eyes half way down the face black, then suddenly white to the nose (which is black); the lips, which are pendulous, spotted with orange and black; the white above the nose is continued in a blaze or streak up the forehead, and *extends in a narrow line down the poll, meeting the white collar round the neck.*

"The monks begged us to observe this peculiar mark, and compared it to the badge of their order—a white band or tape, single behind, slit to pass over the neck, and the two ends tucked into the black dress in front at the waist. Some very fine specimens, however, are brindled instead of orange tawny, and many have no white in the face at all, nor down the poll. The coat, which appears to the casual observer hard and smooth, when closely examined proves to be very thick and fleecy, and it is well suited to repel cold by retaining the animal heat. The tail is bushy, but carried generally down between the hocks, and the gait or carriage of the dog much resembles the march of the lion.

"The character of the dog is majestic and important. He has that true nobility possessed by the highest type of Newfoundland. The same thoughtful, observant eye, the wide brow, the muscular neck, the enormous loin, and sinewy arms and thighs, and the large round arched feet and toes (*'pattes enormes'* the monks called them), and that general intimation of power, and sense, and benevolence which no other domesticated animal possesses in the same compass.

"Tell, the noble specimen we have engraved, has the true form of the St. Bernard dog, and we believe him to be the best dog of his class in England. His owner, Mr. Macdona, proceeded to Switzerland, in the winter of last year to obtain at any cost the best specimen to be had for money, and after rejecting many fine examples, at length bought the only one that came up to his ideal.

"The Rev. John Macdona's dog was bred in Berne; his sire, Hero, and his dam, Diane, came from the Oberland, where the monks obtained a fresh supply of dogs when their old breed died out. Hero is a descendant of the famous Barry. Tell is about 2½ years old.

"The following are his measurements and weight:—

	ft.	in.
"Height at shoulder.....	0	30½
"Length from nose to top of tail	7	0
"Girth of chest.....	0	36
" arm	0	13
" head.....	0	22
"Length of head	0	13

"Weight, 147lb.

"He is a red or tawny brindle, the muzzle black, as far as the lower line of the eyes. Chest white. The two fore paws white, the ankles white, belly white. Tail heavily feathered, and sometimes carried gaily. Hind quarters beautifully furnished with coat. Head massive, eyes quick and intelligent, ears small and well set. He has *the peculiar slinging gait of his tribe.* He has *the retriever instinct,* and is very fond of carrying, or retrieving from water. He is of the rough or shaggy coated breed. There is, we are credibly informed, a smooth variety now existing.

"Captain Tyler's Thün answers this description. He is very large, and of the orange tawny colour, with little white, and is by Leo—Leo by Turk, who came from the Monastery.

"The description we have given of the St. Bernard dog is a repetition of the informa-

tion afforded us personally by the monks, and we have formed an opinion of the class from the specimens the Hospice contained.

"We regret to find there is no class for the breed at Birmingham, for we believe the dog, if naturalized and bred in this country, would be found most useful as a protector; and the smaller selections might prove, and we believe would prove excellent retrievers; and being an old and original breed—brought, we believe, from Spain—they would cross well with our lighter sporting dogs.

"We should give the points of the St. Bernard as follows:—

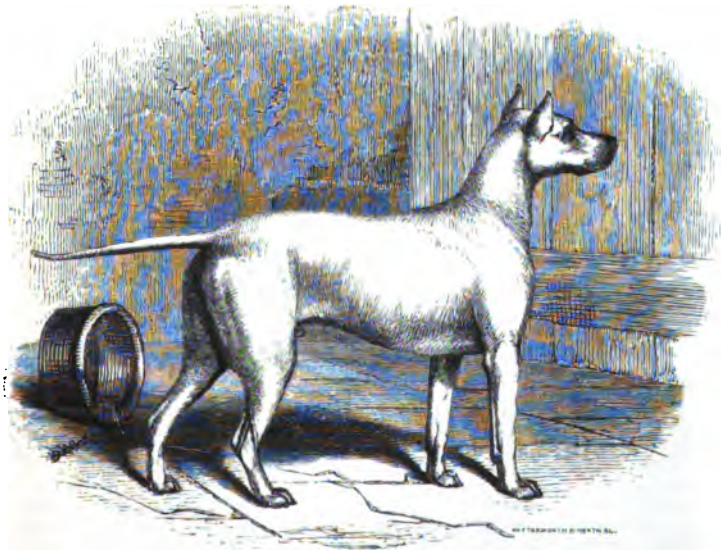
"Head	30
"Line down the poll	10
"Feet and legs	10
"Shoulders	10
"Back and loin	10
"Colour	10
"Texture of Coat	10
"Temperament	10."

THE BULLDOG is indisputably of British origin, and has never been permanently introduced into any other country. His courage is so great that it has become proverbial, and, with the exception of the game cock, there is no other domestic animal at all coming up to him. Independently of this quality, there is much difference of opinion as to the mental peculiarities of this breed. By some authorities the bulldog is stated to be quarrelsome and wantonly savage, so that he can never be made a safe companion; while others allege that he is mild and gentle in disposition, never showing his teeth until he is induced to do so by some special cause. As usual in such cases, the truth lies between two extremes. The bulldog is no doubt dangerous when his blood is up, and even his master runs some risk in meddling with him then, but he may generally be controlled with perfect facility, and he is mild, fondling, and gentle in his manner as a general rule. Still, he is not capable of strong attachment, and he cannot be taught more than the commonest forms of obedience. He is silent in his attacks, so that he does not make a good watch-dog. Formerly the breed was kept pure with great care for the purpose of baiting the bull, in which his tendency to pin the most vulnerable point (the nose) made him invaluable, no other dog having either the same desire to go at the head in preference to all other parts, or the same unflinching hold of the grasp when once obtained. Bulldogs have had their legs cut off after pinning a bull without letting go, and other equally horrible cruelties have been practised to show this peculiarity. In the present day, when bull-baiting is interdicted by act of parliament, the use of the bulldog is confined to the improvement in courage of other breeds, by crossing with them, and in this way the greyhound is supposed to have been brought to perfection by Lord Orford and Mr. Etwall in England, and by Mr. Raimes in Scotland, but a later experiment made by Mr. Hanley has been as yet unsuccessful. The cross with the terrier is an excellent one for general purposes, as I shall presently show.

The points of the breed are as follows, though there is some difference of opinion upon certain of them. The SKULL should be large and high and broad, the cheeks extending prominently beyond the eyes, and the forehead should be well creased or wrinkled, and flat. The EYES should be black and round, not very large, situated in front of the head, wide apart, and neither prominent nor deeply set, the corners at right angles with a line drawn down the centre of the face. The "STOP" (which is an indentation between the eyes) should extend up the face of considerable length. The FACE as short as possible from the front of the cheek bone to the end of the nose—deeply wrinkled. The muzzle should turn up. The CHOP—that is, the fleshy part of the muzzle—should be broad and deep, and should perfectly cover the teeth. The NOSE should be large and black. The LOWER JAW should project, and the nose should be set well back, and the lower jaw should turn upwards. The neck moderately long, well arched, with a good dewlap. The ears should be small and on the top of the head. Three descriptions of ear are permitted, called "rose," "button," and "tulip." The rose ears fold at the back, the tip laps over outwards, exposing part of the inside; the button ear falls in front, hiding the interior completely; the tulip ear is quite erect, and is allowed to be an undesirable form.—Skull, 10; ears, 5; eyes, 5; "stop," 5; shortness of face, 5; chop, 5; nose, 5; jaws, 5; neck, 5.

The CHEST should be wide and deep, the back short, wide across the shoulders, and not so wide across the loins; ribs round. There should be a slight fall behind the shoulders, and the spine should rise at the loins, falling rapidly to the stern, and well arched. The STERN should be moderately thick where it joins the body, and be fine to the point. It should have a decided downward carriage. I prefer a tail of a moderate length, decidedly objecting to a long

BULL DOG.



BULL TERRIER

tail having a curve at the end, commonly called the "ring tail." The tail should be low in its setting on also.—Chest, 5; body, 5; stern, 5.

The FORE LEGS should be strong, muscular, and straight; they should be short, the elbow well let down. The HIND LEGS should be rather longer in proportion than the fore legs, so as to raise the loins, and, in direct opposition to the established opinion of connoisseurs, we prefer the hocks to be straight, and that the stifles should not turn out, which must be the case if the hocks approach each other. The FORE FEET should be well arched, they should be moderately round, and the toes should be well split up. The feet should turn neither in nor out; they should be small, and the hind feet should be of the same character.—Fore legs, 5; hind legs, 5; fore feet, 5; hind feet, 5.

The COAT should be fine and smooth. The COLOUR should be whole or unmixed, and may be red, red-smut, fawn, fawn-smut, fallow, fallow-smut, or blue-fawn, or white, which we prefer. With all these points and properties he must be SYMMETRICAL. His action is rather slovenly, his hind legs not being lifted high as he runs. He varies in weight from 15lb. to 60lb.—Coat, 5; colour, 5; carriage and temper, 5.

THE BULL TERRIER is, like the bulldog, almost peculiar to this country, and indeed in the whole family of terriers he is pre-eminent. This breed is known in the hardware and pottery districts, where it is carried to the highest perfection as the "halfbred" *par excellence*, and Mr. Hinks, of Birmingham, may lay claim to having carried off the highest honours from his competitors with his succession of Madmen, his Puss, Tartar, &c. These dogs are used solely for fighting, which is still privately carried on by their patrons, but the breed is equally good for attacking the badger, and other hard-biting vermin, requiring high courage and more quickness and docility than are possessed by the pure bulldog. Hence he is a great favourite as the companion of young men, whether military or civilian, and as he can make himself generally useful, he is popular also with the groom and the workman. The first cross is generally too much like the bulldog, but the second shows in perfection all the attributes required for the purpose I am alluding to. In weight he varies from 9lb. up to 35lb., or more. In general appearance he resembles the terrier, except that he is wider across his skull and possesses more strength and stamina.

His HEAD should be long, the muzzle sharp, the jaw level—not underhung, which is a disfigurement, and also prevents a dog punishing his adversary. *The under-jaw should display great power*, and the neck should be long.—Head, 25 points; neck, 10.

The CHEST is wide, the shoulders sloping and powerful, the loin and back strong, the hind quarters and thighs muscular. The tail should be fine and sting-like, but not bare; carried gaily, but not "hooped."—Chest, 10; shoulders, 10; loin, 10; tail, 5.

The FEET AND LEGS should resemble those of the hound in shape.—Value, 10.

The COAT throughout is fine and short, and it should lie smoothly, like a well-dressed racehorse. Pure white, with a black nose and eye, is the most approved colour. Next in merit I should place white with coloured ears, or a patch on the eyes. I believe all the best judges entertain a strong preference for the white dog; but in any case the colour should be "whole," that is, unmixed with white, unless the dog be all white, which is, in that case, considered a "whole" colour. If coloured it should be either red, red-smut (that is, red with black muzzle), fawn or fawn-smut, fallow or fallow-smut, brindled, white, blue-fawn (that is, fawn with blue muzzle), or pied with any of those colours.—Coat and colour, 10.

A LOVING AND GENTLE TEMPERAMENT is of great importance; value, therefore, 10.

THE FAMILY OF PURE TERRIERS is a large one, and includes besides the "toys" the Scotch, Skye, and Dandie Dinmont in Scotland, and the various strains of smooth terriers in England. Of late years the Scotch broken-haired dog has been by selection converted into an animal possessing a silky and comparatively long and wavy coat, utterly unlike his ancestry The subdivisions are now almost endless, but the above-mentioned breeds are the leading ones, and to them I shall now confine myself, leaving the toy terriers to the next subsection.

THE SMOOTH ENGLISH TERRIER is a very old breed, probably as old as any we have. Possessed of a merry and active temperament, and gifted with a good nose, he is the model of a vermin dog, where there is no badger or otter to attack; but for these he is scarcely fitted in power, and as a rule he will not face them at close quarters. Elegant and graceful in his outline, he shares with the bull-terrier the patronage of young men, with whom his companionable qualities make him a favourite in-doors

as well as out. He may weigh from 6lb. to 10lb., or even 20lb.; but, provided he is large enough for his calling, he cannot be too small. It is an advantage to keep down the size of certain dogs as much as possible, and we ought to consider that two small terriers will do more than double the work of one large dog, whilst they consume no more.

THE HEAD is narrow, long, and flat. The muzzle must be fine, tapering, sharp, and fox-like; but the jaw must be muscular, and the mouth must *never* be underhung. It is better that the upper jaw should be slightly in excess, if there is the least deviation from a level mouth. The "stop," or indent between the eyes, must be evident and "pronounced." The eye must be sparkling, bright, but not large. The ears round, flat to the head in repose, but raised, although falling over, when the dog is roused. A tulip or prick ear is a great deformity, and betokens mongrel family. It has been the fashion to crop the ears of terriers for many years, and the eye has become so accustomed to it that many good judges will scarcely look at a terrier unless he has been scientifically cropped. In large towns it is not the fashion to shorten the tail at all when the ears are cut, whilst country sportsmen leave the ears but shorten the tail. The neck should be long, tapering, and muscular, and clean where it joins the lower jaw. Head, 25; neck, 10.

THE RIBS must be round, the shoulders deep and well set back, and as powerful as possible, enabling the dog to grapple with his foe or to dig him. The loins must be strong and the back ribs deep. In the conformation of his body he must be neither high nor wide, but well knit together, *multum in parvo*. Chest, 10; shoulders, 10.

THE FORE LEGS should be straight as arrows; the feet strong, the toes moderately arched and well split, and the form of the foot should be round and fox-like. The thighs should be large and muscular, the hocks in a straight line, and the hind legs should be moderately straight also. Value, 10.

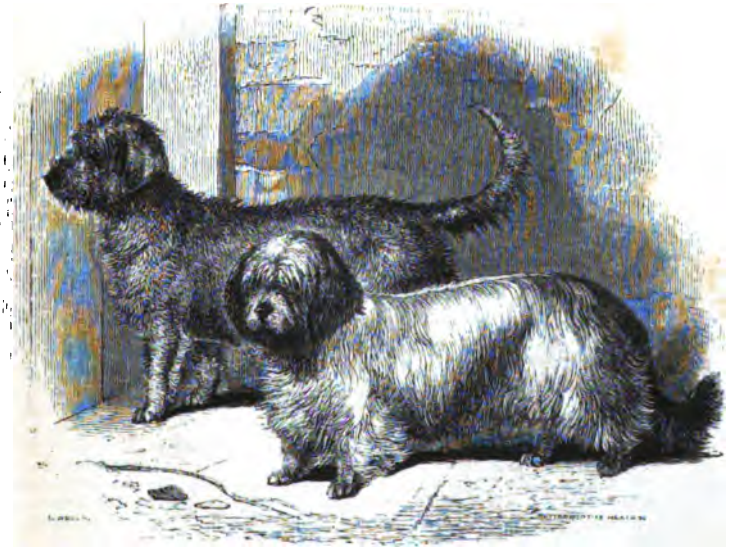
THE TAIL must be very fine, with a low carriage, but *not bare*; and when the dog is excited it is carried gaily; 5.

THE BEST COLOURS are white or black-and-tan. Both are good, but on some accounts the white dog is preferred. Used for ratting, he is most easily distinguished; and he has the same advantage as to colour when his services are required for rabbit-hunting. But for a town the black-and-tan, provided that the tan cheeks, spots over the eyes, throat, and legs are brilliant in colour, and that the black is raven-black, is the best. In this case the dog should have no white about him—not even on his chest, and a white foot thoroughly destroys his quality. In toy dogs of this colour a black line down the front of each toe, called "pencilling," is indispensable; but terriers of the size I am now describing, though sometimes possessing this property, and required to show it by many judges at our shows, can scarcely be considered defective if they do not display it. Smooth terriers may be found of other colours—yellow, yellow-and-white, hound-pied, black or fawn. A beautiful blue or blue-fawn variety exists, said to be crossed with the Italian greyhound. Brindle colour is a sign of the bulldog cross. Coat and colour, 10; temperament, as in the bull-terrier, 10. Whether black-and-tan or white, his coat should be smooth yet hard, and he should be perfectly free from the very least roughness, or anything approaching coarseness of coat about his muzzle, eyebrows, thighs, or any part of his profile.

ROUGH TERRIERS are no doubt all descended from the broken-haired Scotch dog, with which all must be familiar; but whether the modern silken hair has been developed by crossing with the Maltese, or by selection, is a moot question. In general shape this dog resembles the smooth variety, but he is slightly longer in frame, and not so elegant in his proportions. The chief peculiarity, as I before remarked, is in coat and colour. The roughness of coat about the muzzle and face make the head look larger, and take off a good deal from the lively look so remarkable in the smooth dog. The old-fashioned hard and wiry-coated dog is, I believe, more game than the silky haired dog now in fashion; but no doubt the latter is a very elegant animal, and well suited for the bar-parlour, where he is extensively patronized. The modern favourite is of a blue colour, with rich fawn (approaching to a tan) legs, the under parts being all of the latter colour. The tail is carried higher than that of the smooth dog. In the old-fashioned strain the colours are either grizzled, black, with pale tan points, or generally of a grizzled black-brown, sometimes quite grey, and constituting the pepper-and-salt colour. Sometimes the broken-haired dog is white, more or less marked with blue, or some other colour, but the less the better. The points are the same as in the bull-terrier and smooth terrier.

THE SKYE TERRIER is, with the exception of the turnspit, and his foreign representa-

SMOOTH AND ROUGH TERRIERS.



SKYE AND DANDIE DINMONT TERRIERS. P. 664

tive, the barbet, the longest of all dogs in proportion to his height. From the nose to the tip of his tail, when extended, this dog should measure at least three times its height, and sometimes is met with three and a half times as long. At the same time its coat is so developed that its shape is really very like the door-mat to which it is so often compared—ears, legs, and tail all merging in one mass, with the exception of the tip of the latter, and of the feet. In a well-coated specimen the eyes are only to be guessed at, and even the nose is often obscured; but generally they are each more or less visible on a close inspection. Proportion of length to height, 20 points.

THE HEAD looks large from the profusion of hair with which it is invested, but it is, not really so. Its shape is not easily got at, but it is somewhat wide, while the neck is unusually long. The eyes, which are from the same cause scarcely visible, are found, on separating the overhanging hair, to be keen, expressive, small, and generally of a dark colour, either black or brown, as are the nose and palate. The ears are of good size, that is, about three inches long, clothed thickly with hair, which should mingle with that of the face and neck, and decidedly, in my opinion, should fall, but not quite close to the cheek, owing to the quantity of hair by which they are surrounded. Many breeders, however, prefer the prick ear, asserting that the strains possessing it are harder and better at vermin. The mouth must be level, with a large and black nose. Ears, 15.

The body is too much coated to show its shape, and the form of the shoulders and back ribs can only be ascertained by handling. Value, 10.

THE FORE LEGS are generally more or less bandy; there are no dew claws, and the feet are not very strong, having a tendency to flatness, and thinness of the soles. Tail long, and carried horizontally, but with a sweep, so that the tip is a little below the level of the back. Weight from 10lb. to 18lb., the bitches being nearly as heavy as the dogs—perhaps about 2lb. less. Absence of dew claws, 10; carriage of tail, 10.

THE COLOURS most fancied are steel with black tips, fawn with dark brown tips to the ears and tail, dark slaty-blue (slightly grizzled, but without any absolute admixture of white), black, and pure fawn—the order we have named being in accordance with the value of each. The hair should be long, straight, and shining like that of the tail of the horse, any appearance of silkiness, woolliness, or curl being to be avoided, excepting on the top of the head, where it may have a slight tendency to the first-named condition. Texture of coat, 30; colour, 15.

THE DANDIE DINMONT resembles the Skye terrier in general appearance, but there are several points of great importance by which the two may be distinguished. As stated in the *Field*, and not contradicted, Sir Walter Scott was the first to draw attention to this breed in the second of the Waverley series of novels, in which Dandie Dinmont of Charlieshope is introduced as the owner of "Auld Pepper and Auld Mustard, and Young Pepper and Young Mustard, and Little Pepper and Little Mustard," which he had "a' regularly entered, first wi' rottens, then wi' stots or weasels, and then wi' tee tods and brocks, and now," as he said, "they fear naething that ever cam' wi' a hairy skin on't." According to this high authority in matters canine, therefore, the dog of his day was a good vermin-killer, and so he remains to this day. The original of this strongly marked character was a Mr. James Davidson of Hindlee, holding from Lord Douglas a wild farm on the edge of the Teviotdale mountains, bordering closely on Liddesdale. He was an ardent foxhunter, according to the fashion of the district, which is detailed at length in the twenty-fifth chapter of "Guy Mannering," and which, as Sir Walter remarks, was conducted in a manner to "shock a member of the Pytchley Hunt"—the fox being coursed by an indefinite number of "large and fierce greyhounds," when driven from his earth by the "terriers, including the whole generation of Pepper and Mustard," together with "mongrel, whelp, and cur of low degree." Excepting, therefore, by tradition, the Dandie Dinmont terrier can only be traced back about half a century, or perhaps ten or twenty years more. At present, the most celebrated strains are those of the Duke of Buccleuch, obtained direct from James Davidson; Sir G. Douglas, of Springwood Park; Mr. Stoddart, of Selkirk; Mr. Frain, of The Trews; Mr. M'Dougall, of Cessford; Mr. Somners, of Kelso; Dr. Brown, of Melrose; Mr. Aitken, of Edinburgh; Mr. Hugh Purvis, of Leaderfoot; and Mr. Bradshaw Smith, of Dumfriesshire.

The *points* of the Dandie are as follows: Body long, but not so long as that of the Skye, the length being less than three times that of the height; shoulders low, with a tendency to crouch, and the back slightly curved down behind them, with a corresponding arch of the loin; head pro-

portionately larger than that of the Skye, less tapering to the nose, which is cut off square like the pointer's, the teeth being quite level; ears large and hanging close to the head, without much hair on them; eyes full, bright, and intelligent, but not so large as in the spaniel; neck well developed, but shorter than the Skye's; the tail, with no more hair on it than on the rest of the body, and curving upwards, is, unlike the Skye's, carried over the back in a hound-like manner. Head, 10; ears, 10; tail, 10.

THE LEGS are short, and without any feather; weight, from 18lb. to 24lb., varying according to the strain, and to the extent of 3lb. or 4lb. between the sexes.

Coat soft, but neither woolly nor silky, except on the top of the head, where it it is decidedly silky, and though rough, is nowhere of any great length. Colour, either "mustard" (reddish-brown), or "pepper" (bluish-grey), or a combination of the two, in which case the back is of the latter colour, while the legs, insides of the ears, bosom, and lower side of the tail are "mustard" colour, more or less verging upon tan or fawn. Coat, 25; colour, 20; general symmetry, 15. Such is the description of the best strains, including especially those of Dr. Brown, Sir George Douglas, and Mr. Stoddart; but sometimes we see dogs, whose pedigrees can be authenticated, possessing a tulip ear, but this never ought to be positively pricked.

The pure breed is now rarely met with even in its native district.

THE SHEEP DOG has undoubtedly a higher commercial value than any other, as he has often under his charge a flock worth thousands of pounds. There are various breeds in use throughout the United Kingdom, some smooth, but the majority more or less rough. The most distinct of these is the Scotch colly. I do not place much reliance upon the value of the *points* in the breed, but they may be put nearly as follows:—Head, 20; temperament, 20; shoulders 10; coat, 10; colour, 10; back, 10; loin, 10; feet and legs, 10.

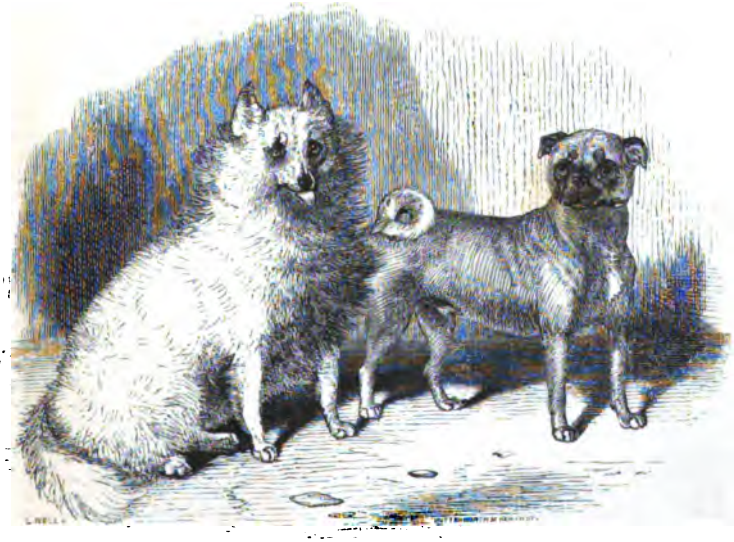
THE ENGLISH ROUGH DOG has nearly always a wiry muzzle, and a good useful hard coat of hair over his whole body. The best specimens are not so long in the leg as the generality of dogs, and when they have tails they carry them lower than the Scotch dog. They have good feet and legs, and are possessed of iron constitutions. In those districts where large numbers of sheep are kept, great attention is paid to their education, and a good sheep dog is considered as indispensable to the well-doing of a flock as a good shepherd.

THE SCOTCH COLLY, or Highland sheep dog, is a far more graceful animal, and his sense and intelligence are equal to any breed of dogs in the world. Two races are to be found in Scotland—the rough and the smooth. The rough or shaggy-coated colly is the most choice description; for his impenetrable warm thick coat is a good protection to him when his duty calls him to face the storms and mists and snows of the wild mountains, especially when the stragglers of his flock have been covered by the snowdrifts, and he goes in search of them with his master. He has a fine fox-like muzzle; full, expressive, but rather crafty eyes; small ears, dropping forward, and the mask of his face is smooth. From the base of the skull the whole of the neck and the entire body are protected by a deep, warm, long coat of various colours—sometimes black with tan points; sometimes sandy, or of various mixed greys, some of which are singularly beautiful and picturesque. There is generally a very fine white line down the forehead, not amounting to a blaze, as in the spaniels. His legs (especially the hind legs, from the hocks) are bare, that is, not feathered; and for many years authorities on the dog have described the colly as having one, or even two, dew claws on each hind leg, which is indeed generally the case. His neck is long, and rather arched; his shoulders are set well back, and are very powerful; the elbow is well let down; the fore arm is short; the ankles or pasterns are long, and rather small for his size: and the feet are round, arched, and have excellent thick hard soles; the chest is deep, but rather narrow; he is broad over his back; his loins are well arched; the hips are wide; his thighs are muscular, and he is inclined to go rather wide behind; the tail is very bushy and large, and carried up when he is in motion, and when he is controlling his excitement it is turned over his back.

THE SMOOTH SCOTCH DOG is generally of a sandy colour, although occasionally he may be met with of the black-tan or mixed tints.

THE POMERANIAN can scarcely be called a dog of the British Islands, but it is now so common as to be almost naturalized among us. It resembles, in shape of body and head, the Scotch colly, but is a size smaller, carries the tail over the back, and is generally of a pure white colour. The ears also are more pricked, being quite fox or wolf-like in their character. Hence it is often called in France by the name *loe-*

COLLY DOG.



POMERANIAN AND PUG.

lou. No points have been assigned to it, but it may be judged by general symmetry.

Sub-Section F.

Ladies' Toy Dogs.

Fashion changes her toy dogs just as often as her costumes, and the favourite of one year is turned into the streets (metaphorically) the next. Poodles, spaniels, terriers, Italian greyhounds, and pugs, have each had their reign, but at present it would be difficult to determine which has the pre-eminence. As a rule the short-haired dog makes a better drawing-room pet than his long-coated rival, and especially when his skin is peculiarly free from smell, as is the case with the pug dog and Italian greyhound. Hence it is no wonder that these little animals fetch 30*l.* apiece, though we have known 50*l.* paid for a King Charles' spaniel; and this being the highest sum I ever heard of as paid for a toy dog, I shall commence with that breed.

The King Charles is now always either black-and-tan without white, or a mixture of these colours in handsome patches, the tan spot over the eye in the latter case being always an important feature. In the time of Charles II., from whom the dog gets his name, the colour, as shown by Vandyck, was liver and white, which colour was in vogue until the present century, when the black-and-tan superseded it, and is now considered the speciality of the breed. Nor is the modern shortness of face of old standing when carried to the extreme which now prevails. Vandyck's dogs are quite sharp-nosed, and those which I remember early in the present century, were at least only half way on the road to the state in which they are now exhibited with faces like those of the bulldog. At present the dog should weigh about 7lb. (not more than 10lb.) Perfection in shape is seldom attained below 7lb., but if it can be obtained in smaller compass so much the better.

He should have a round skull and large round prominent eyes, with a deep indentation or "stop" between them. The lower jaw should project beyond the upper, and turn up. Large ears "touching the ground" are highly esteemed, but this is a figurative expression. They must droop close to the head and be thickly coated. The back of all the legs must be densely feathered, and the feet must be almost lost in the feather, which ought to project beyond the nails.

The Tail should be carried low, the dog should stand on short legs and appear compact. Any protrusion of the tongue is most objectionable.

His coat should be silky, straight, very abundant, and of the richest colour. The black should be intense, the tan vivid and rich. The dog should be altogether free from white. He should have tan of this rich red quality on his cheeks and the inner margin of the ear. His lips should be tan, and he should have a spot of the same colour over each eye; the larger this spot is the better. His cheeks should be well tanned, also his chest or "mane," all his legs, his belly, the feather of his haunches, his vent, and the under plumage of his tail.

The following scale of *points* is in general acceptation:—Form of head, 10; nose and formation of jaw, 10; eyes, 10; ears, 10; general coat and texture, 10;, form and compactness, 10; brilliancy of colour, 10; feather of legs and feet, 10; size and weight, 10; carriage of tail, 10;—total, 100.

The Blenheim Spaniel was thus described in the *Field* of Sept. 15th, 1866—"This drawing-room favourite derives his name from the celebrated seat of the Dukes of Marlborough, where he used to be carefully bred; the town of Woodstock being some years ago the fountain head for pure Blenheim spaniels, which could also be purchased wonderfully small and well marked at Oxford about twenty-five years since.

"It is very difficult indeed to trace the origin of this dog, which, judging from Vandyck's pictures was cherished at Courts in the days of Charles I. Sir Godfrey Kneller, we have heard, has painted small red-and-white spaniels at the feet of several Court beauties, or nestling in their laps. We are also informed that portraits from his hand are to be seen at Blenheim Palace and Arundel Castle, and that the small 'comforter' of this colour was in favour in the reigns of Charles II., James II., and up to the end of the time of Queen Anne.

"It has been called the 'Marlborough spaniel' by some authors, who assert that it was first crossed with the King Charles, otherwise known as the King James spaniel, by a former Duke of Norfolk, who had a large number of them at Worksop.

"It has been asserted that the same description of dog was a favourite in the time of Henry VIII., that it was much esteemed by Elizabeth, and that the small 'dogg' which was found under the clothes of Mary Queen of Scots after her execution was of this breed. As we have before stated, it is almost impossible to give positive information as to the first origin of the Blenheim; and we incline to the opinion that it sprang from a race of cockers of that colour, for which the first owner of Blenheim was cele-

brated, and that the small race known by that name derived their origin from in-and-in breeding, and jealousy to preserve the breed.

"Good specimens were the great exception; and at this period—about the year 1841—perhaps but two or three *good* specimens existed in the neighbourhood of Blenheim, and of these we can call to mind but one of surpassing excellence, a bitch named Rose, belonging to A. R. Reinagle, Esq., of Oxford. This bitch would at the present time bear comparison with anything to be purchased in London, and she quite came up to the description we shall give of a true 'Blenheim.'

"This charming spaniel did not weigh more than 4½lb. or 5lb. Her head (exquisitely modelled and full of character and intelligence), was in exact proportion to her size. Her coat was soft, silky, shining, luxuriant, and of transparent whiteness, except where it was stained in patches with the genuine rich 'Blenheim orange,' whilst her feet and legs were almost lost in the exuberant feather of her 'mane,' body, and thighs.

"At the time 'Rose' was in her glory we were receiving instructions from her owner, and possessed many opportunities of marking her beauty and intelligence—two properties which are not always found together in pet spaniels.

"The Blenheim is at the present time rare, but, compared with the King Charles, it does not command a large price. About a year ago it was with the greatest difficulty we procured one; although of perfect form and exceedingly diminutive, only 15*l.* was asked for it, whilst a King Charles of equal excellence would have been cheap at double the money.

"The points of the Blenheim do not differ from those of the King Charles. The main difference consists in the colour and markings, and in the texture of the hair, which may be more waved in the Blenheim than in the other breed. He should have the same round skull, the same prominent, large, round eyes, weeping and wet at the corner, and leaving a wet trace down the cheek. He must also have the deep stop, the projecting lower jaw, and the short black nose. He should have large, well-coated ears; but we must not expect to find them so dense or so deep and large as in the King Charles. He must be compact, well coated, and the feather of his legs and thighs must be profuse. His tail should be bushy, 'well-flagged,' and carried low. He should not exceed 5lb. in weight; and if he weighs 8lb. or 9lb. he is of very little value.

"His head should be well marked; a white streak should run down his skull, and his lips and chin should be white, freckled with red. In the centre of this white blaze, or rather in the centre of his forehead, he should have 'the spot' about the size of and as round as a sixpence. His chest must be exceedingly well coated; and to this point of beauty great attention should be directed by any judge, as 'the mane' has always been a great point in Blenheims.

"The markings of the body are not of very great importance, provided there is no preponderance of either colour, and that both are distinct or clear. Freckled legs are not in favour; and although a few spots would not prejudice a judge, the fewer of these spots the better.

"The 'red' should be brilliant, and of a yellow or golden hue, by no means approaching the deep sienna stain of the black-tan spaniel or Gordon setter; and many admirable specimens of breeding are of a positive sandy tone. This colour is not, however, *Blenheim colour*, which ought to be rich, pure, and defined. The well-bred animal is lively in temperament, but is more capricious and snappish than the King Charles; and occasionally it forms deep and lasting attachments to those with whom it associates.

"We give the points of the Blenheim thus:—Form of head, 10; nose and form of jaw, 10; eyes, 10; ears, 10; coat and texture (including good mane), 10; compactness and form, 10; brilliant colour and spot, 10; feather of legs and feet, 10; size and weight, 10; and tail and its position, 10; total, 100."

THE ITALIAN GREYHOUND.—All authorities unite in the opinion that this beautiful little dog must be an English smooth greyhound in everything but size, which is tantamount to stating that it must be one of the most graceful, or, perhaps, the most graceful and racing-looking creature on the face of the earth.

Bewick gives no engraving of the Italian greyhound, which is to be regretted; and without doubt he would have given one if a specimen could have been procured.

In Italy it has always been a favourite, and we gather from the pictures of Antoine Watteau, the celebrated French painter, that it was much esteemed by the lords and ladies of his country at the close of the 17th or at the beginning of the 18th century; but they were known and in the hands of the rich—as graceful and perhaps as small, as at the present time—in Milan in the 15th and 16th centuries.

KING CHARLES AND BLACK AND TAN.

TOY TERRIER AND ITALIAN GREYHOUND

Hogarth has represented a pair of dogs, somewhat of the breed, in one of his pictures of "Marriage à la Mode," and the dog occasionally appears in the portraits of our old English families; but, as we have before observed, it has always been scarce, and it is exceedingly delicate and hard to rear.

It is neither more nor less than a small greyhound, for which Italy was celebrated, and which perhaps was originally bred as a distinct breed. It must have become dwarfed from climate or constant "in-breeding," but it has never been in any way deformed by the means adopted to decrease its size.

As the external form of the Italian exactly corresponds with that of the smooth English greyhound, I cannot do better than refer my readers to the description of the animal given at page 651, but, quoting from this standard, I will observe "that the head should be wide behind, and larger in circumference if measured over the ears than over the eyebrows. The jaw should be very lean, with a good muscular development of the cheek." The eye of the Italian species, however, should not be so large or full as that of the English dog.

It has been settled that the ear of the Italian should be exceedingly small, and falling flat, except when the animal is animated. It may then be slightly raised, but never pricked.

Blue and fawn are the favourite colours; the latter should be of an auburn hue. Various colours, however, are fashionable for a time, and then fancy changes. At one time cream-coloured dogs commanded the highest price, then white with black nose. At one time black muzzles were in vogue, and we believe they are preferred at the present time, and parti-coloured dogs are not thought much of. When these dogs are self-coloured, they should be free from any white; and this may be predicated of every description of dog or hound. Fawn dogs should have black toe-nails. All of the breed should have very glossy coats and a compact form. The tail should be very fine, and though coated, and not bare or showing the caudal vertebræ, it should be void of all roughness.

The weight must not exceed 8lb. or 9lb., and the dog is valuable in proportion as he weighs less than this. Specimens have been bred, which, at maturity, did not reach 5lb., but they were very delicate and shy. Some of the best shaped and most perfect greyhounds of this description have reached from 14lb. to 18lb., and at this weight they are certainly more robust than the more valuable dwarfs, occasionally becoming fat and losing the beautiful lines of their kind.

Some very charming specimens have been shown in London. We have a lively recollection of Mrs. Burke's Silver, Dr. Palmer's Garibaldi, and Mr. Hugh Hanley's Psyche. Some very good ones have also appeared at all our metropolitan exhibitions. But at the present moment it would be exceedingly difficult to obtain a first-class specimen, and I have no hesitation in saying it is the rarest dog of the day.

It has been crossed iu Staffordshire with the small bull-terrier with advantage, and the produce displayed no delicacy and lost none of its courage. I have seen many of these in "the black country." They were slate-coloured or blue-tanned, and very like the blue terrier known in London as the "blue Peter," which I suspect is bred in a similar manner.

Although the pure Italian greyhound is generally delicate and nervous, it now and then displays wonderful affection and fidelity, and we remember hearing that a celebrated bitch of the breed, named Fly, the property of the same gentleman who possessed the Blenheim "Rose," once jumped from a third-storey window into the street to follow her master, and alighted without injury.

This dog was used as a model by more than one sculptor, and we believe that she was the original of the celebrated and artistic model in parian published by the artist potter of the day. The points of this animal are of course identical with those of the smooth English greyhound, but some preference in marks must be given for the fashionable colour at the time when the award is made; and I must refer to the article on the greyhound for the proper distribution of them.

THE PUG DOG is now again in fashion, but between the years 1836-46 it was the rarest breed in Great Britain. About the year 1846 one or two specimens appeared, and, under the fostering care of a few breeders, admirable examples were produced. The old and absurd system of cropping off the whole of the ears prevailed, and this cruelty was excused because it occasioned that wrinkling and puckering of the forehead considered essential in a pug dog. The barbarous fashion was continued simply because it had been followed in the days of our grandfathers and great-grandfathers, at any rate up to the year 1804, when the dog was the rage; and very beautiful specimens thus mutilated have been exhibited at our modern dog shows. Within

the last year or two this unhappy custom has been on the wane, and where expediency cannot be pleaded, owing to the dog's occupation, we trust such torture will be abandoned.

Mr. Morrison, of Walham Green, the late Mr. H. Gilbert, Mr. John Anderson, Mr. Jardine, Mr. Hinks (the owner of "Madman," the celebrated bull terrier), and Mr. Henry Brown, of Gilling Lodge, Haverstock-hill, one of the most reliable breeders of valuable dogs, and certainly one of the best judges in England of "toy dogs"—all these and many others have bred and exhibited beautiful specimens of the old English pug dog; and we may gather from the favour the dog has met with in high quarters that the breed is in no danger of extinction.

We have remarked that the Dutch breed, and also the Italian (probably descended from the numerous pug dogs noticed by Madame Piozzi as abounding at Padua), are both of them far inferior to the English. This inferiority has been remarked by almost all authorities, and "Stonehenge" is quite correct in saying that the yellow mask is constantly to be seen in Dutch specimens.

The true English pug should be of a fawn colour, devoid of any smut approaching *blackness*. Clearness and purity of colour are essential, so as to render the various markings (which we shall proceed to describe) as clear and sharp in outline as possible. The dog should stand on short legs, as straight and well made as a foxhound, but with long "hare feet," the toes well split up. His head should be round, and the forehead high; nose short, teeth level, jaw square. The eye should be full and black; the ears are small, silky, black, and close to the head. A black mole should be clearly marked on each cheek, with three hairs in each. The mask should be black and positively marked; the neck should be strong and thick, devoid of all loose or puckered skin. The chest should be broad, the back and loins wide and strong, and a black line or "trace" should run down the back to the end of the tail. The tail should be tightly curled over the side or hip, having a second curl. The ribs should be round—this is a great point, as a ragged or narrow dog of this description is considered deformed.

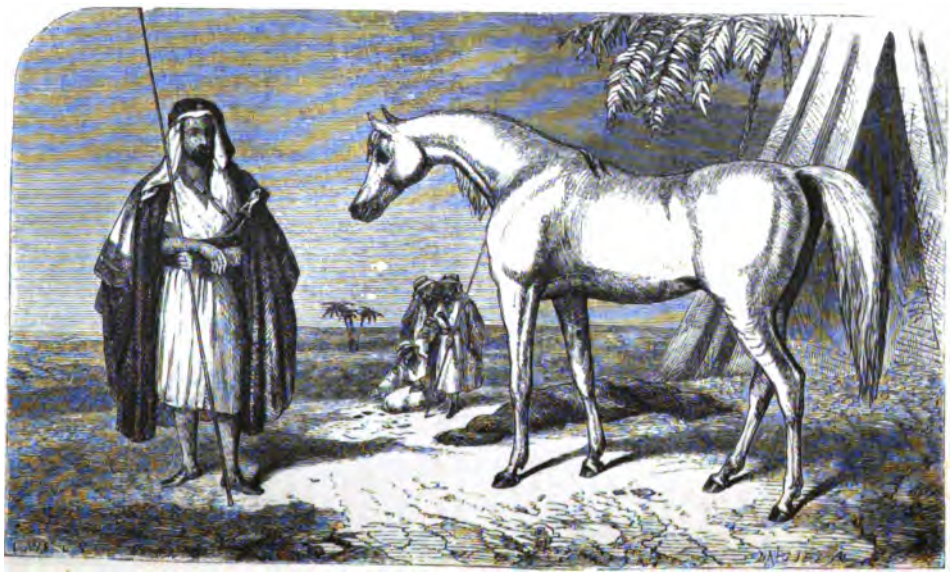
It will be seen that compact form, pure colour, and distinct marking form the principal points in these dogs; but perhaps hardly any toy dog requires a more experienced eye. As all "toys" are beautiful by comparison, no one can form a correct estimate of a dog's relative value unless he is pretty well informed upon the subject, and the rivalry of breeders leads to one excellent example giving place to another.

A narrow or pointed nose is a very great disfigurement; so is a woolly or dead coat. The coat should be sleek and shining, short, and soft to the touch. Round feet are also bad, so are white toes, or indeed, white anywhere. If the black of the mask melts gradually into a grey, and is softened until it mingles with the fawn, the dog loses much of its value.

The points of a pug we give below:—Head, 10; ears, 10; pure colour, 10; distinct mask, 10; black trace, 10; cheek moles, 10; quality of coat, 10; curl of tail, 10; compactness, 10; hare feet, 10—total, 100.

THE MALTESE DOG resembles in general appearance a diminutive Skye terrier, differing chiefly in being of much less size, shorter in the back, and far more silky in coat, which should be of the purest white. Most of the breed are very animated in expression, and in every way are well adapted to be made drawing-room pets. Mr. Mandeville, of London, has of late years carried all before him at the various shows, and indeed has had little opposition, so completely have the claims of his strain been recognised. The *points* are as follows:—Head, closely resembling that of the Skye terrier, but the hair covering the face is more flossy. The general coat is as long also, but more transparent and soft, sometimes running into a fine species of wool; tail carried over the back, but very short, with a brush of silky hair. Colour white, with an occasional patch of fawn. Weight not more than 5 or 6lbs., and as much less as possible.

THE TOY TERRIER.—Each variety of the terrier when bred less than 5, or even 7lbs., is considered to belong to the toys. If black and tan, the colours should be very distinct and rich, without a speck of white, and on the tan each toe should be pencilled with a fine streak of black reaching to the knee. This is a point greatly insisted on by fanciers. In other respects the description of this dog at page 663 will apply. Blue and fawn smooth terriers are also prized highly, but they are not so handsome in my opinion as the black and tan. Smooth white terriers should be without a speck of colour; but they show too much of the pink colour of the skin for my taste. These dogs have generally their ears clipped with tails left perfect, but some people prefer both left as nature provides them. The rough



THE ARAB HORSE IN HIS NATIVE PLAINS. P. 671.

blue fawn, silky coated terrier, makes a very pretty toy dog, and so does the dwarf bull-terrier; both resembling the larger breeds in all points. The Italian greyhound, crossed with the terrier or spaniel, is often passed off as the pure toy terrier, especially the latter, which may be known by the full eye peculiar to the spaniel breed.

THE LION DOG and SMALL POODLE are both sometimes made toy dogs, as well as the Chinese and Japanese spaniel, but they are not bred in this country to any extent.

CHAPTER II.

GENERAL HABITS AND VARIETIES OF THE HORSE.

SECT. 1.—GENERAL HABITS.

THE HORSE (*Equus Caballus*), comes next to the dog in rural sports, being, in fact, almost on a par with him, considering that he is used not only in the true field sports, but in racing, riding, and driving. He also belongs to the division VERTEBRATA, and the class MAMMALIA; but the order UNGULATA, in which he is included, is separated by a long interval from the dog, being the last of the MAMMALIA, while the FERÆ come next to the PRIMATES, of which man is the head and chief. Among the UNGULATA, the *horse* forms the second family, together with the *ass*, the *dzigguetai*, the *zebra*, and *quagga*.

THE EARLY HISTORY AND ORIGIN OF THE HORSE is, like that of the dog, wrapped in obscurity and fable, and we really know little or nothing of it, except that we have reason to believe that he first came from Asia, like man, and according to the Mosaic account, all other animals now existing; and that he was used in Egypt more than 1600 years before Christ. But with the *history* of the horse I shall not encumber this book, which, as I have more than once remarked, might be enlarged to an enormous extent, if this department were entered into at length. Suffice it, then, to discuss the present condition of the horse, and its more recent origin, as now existing in Great Britain, in addition to his general habits.

THE HABITS OF THE HORSE, in all countries, and of all varieties, are pretty much alike. Wherever he is at large, he is bold, but wary, and easily taking note of the approach of man to give him as wide a berth as he possibly can, or rather to show him a clean pair of heels. Wild horses exist to the present day in the interior of Asia and in South America. But both the horses of the Tartars and those of La Plata are descended from domesticated animals, and can scarcely be called wild, in the ordinary acceptation of the term. Indeed, the Californian horses, which are still more recently bred in a wild state from Spanish horses, are quite as wild as those described by Captain Head. From their constant state of liberty, and their roving habits, in order to obtain food and water, they are inured to fatigue, and can bear an enormous amount of long-continued fast work without failing under it, and without that training which the domesticated animal must have. The walk and the gallop are his natural paces, and all others are acquired; but nothing can exceed the fiery animation and the elegance of movement of the free horse; and in these two paces art has done nothing to improve his form, except, perhaps, in slightly increasing the speed of the latter. In all countries, and in every age, the horse feeds upon grain or grass, though it is said that in Arabia he is occasionally supported upon camel's milk, when food such as he usually lives upon is not to be had.

SECT. 2.—PRESENT VARIETIES OF THE HORSE.

THE ARABIAN is still one of the most distinct varieties of this noble animal, and also one of the most prized, being eagerly sought for by Turks and Christians in Asia, Southern Russia, India, and even in Australia. In his native deserts he is still sometimes to be seen in a half-wild state, though most probably owned by some of the "dwellers in tents" peculiar to that region. But it is the more domestic breed with which we have chiefly to do, and which is carefully preserved in a pure state by the chiefs of the various tribes, though it is supposed not so free from stain now as was formerly the case. The head of the Arab is the most beautiful model in nature, giving the idea of courage tempered with docility and submission to man better than any other animal, and even more so than the dog. The very spirited sketch

by Mr. Wells, of the Arab horse, shows this point in full perfection, as well as the light and elegant neck, the high quarter, and the light barrel. It is seldom, perhaps, that so beautiful a frame exists; but examples are not wanting of such an union of elegance with perfectly good and useful points. The length and muscularity of the fore-arm are also remarkable, and the setting on of the tail is peculiarly high—points which have generally been transmitted to our thorough-bred horses descended from Arabian blood. Many modern horses of this breed are exceedingly wicked and full of tricks, especially in India, where an Arab horse is synonymous with a kicker, biter, and plunger; but at the same time he is valued because he is always a good hack, and bears the heat of the Indian summer without injury. To the modern sportsman also he is valuable, because he faces the elephant and the tiger better than any other breed. In height he is generally a little under 15 hands; and in colour either bay, black, or grey. Under the chapter on Breeding for the Turf, the various Arabians are enumerated from which our modern horses are derived. It is said that there are three distinct breeds of Arabians even now—the *Attechi*, a very superior breed; the *Kadischi*, mixed with these, and of little value; and the *Kochlani*, highly prized, and very difficult to procure. If this is true, it may account for the very different results produced by breeding from modern Arabs and those introduced in the eighteenth century.

The Barb is an African horse, of smaller size but coarser make than the Arabian, and evidently fed upon more nutritious food. As his name implies, his native land is Barbary; but there is always great doubt about the particular breed to which imported horses belong, because they are carried considerable distances from their native plains, and are also even then much mixed in blood. It is generally supposed that the Barb is the progenitor of one root of our best English stock, and that the Godolphin Arabian, as he was called, belonged to this blood; but the disputed point cannot possibly be settled, and there seems only one argument in favour of the supposition, founded upon his enormously high crest; while his superior size, being 15 hands high, argues just as strongly in favour of Arab descent. But the Spanish horse is no doubt descended from the Barb, this breed having been carried into Spain by the Moors when they overran the country; and, as the appearance of the Spanish horse is totally opposed to that of the descendants of Godolphin, it is a still stronger proof of his Arabian ancestry; or, at all events, an argument against his claim to Barbary as a native clime.

The Dongola Horse is another African variety, of a much larger size than either the Arab or the Barb, but more leggy. I am not aware that any of this breed have reached this country.

The Persian is a small-sized horse, and quite as elegant as the Arabian, but not nearly so enduring.

The Turkooman, again, is a larger breed, but without the elegance of form of the Arab and Persian. They are light in the barrel, and leggy, with coarse heads and ewe-necks; yet they are endowed with very stout and lasting qualities, and they are said to travel very long distances without distress. This is only another instance of the oft-quoted adage, "that the horse can go in all forms."

The Cossack Horses are reared at liberty, and in large herds, and they were long said to be, in consequence of this fact, of unrivalled speed and stoutness; but in the celebrated race run in Russia in 1825, they were easily beaten at all points by an English horse of second-rate powers, carrying also more weight. They are small and rough-looking, yet spirited and capable of doing all that can be expected from a *pony*.

The Turkish Horse is supposed to be nearly pure Arab, with a cross of the Persian and Turkooman. He is now a very fine, high-spirited, and elegant horse; but no recent trial of his powers has been made as compared with the English horse, in spite of various challenges to that effect. The English racehorse owes his descent to several Turkish importations, as the Byerley, Helmsley, and Belgrade Turks; but it is doubtful whether these were at all similar to the present breeds met with at Constantinople; and as Turkey in Europe and Turkey in Asia are together spread over a large surface of the Eastern hemisphere, the mere name of Turkish horse does not describe very closely his birth and parentage.

The East-Indian and Australian Horses are of various mixed breeds, some being Arabs, some Persians, and others Turks and Barbs; while others again are of English blood, but these degenerate rapidly, and though serviceable in crossing with the Arabian or the Barb, yet they cannot long be maintained in their original purity without injury.

The Belgian and Dutch Horses are

now imported into this country in considerable numbers, and for slow work are very serviceable. They are, however, most of them too heavy and lumbering for anything but machiners, and even in that department they require care not to overdrive them. Most of the horses for our "black work" are from this sort, and many also of the black cavalry horses.

THE NORMAN HORSE, again, is a much more hardy and compact animal, but still slow as compared with our breeds. He is, however, gifted with an excellent constitution, and with legs and feet which will stand rattling to any extent. These horses are generally low and short-legged, as compared with the Belgians.

THE SPANISH HORSE is much crossed with the Barb, and has the good head and neck of that breed, but coupled with a weak and drooping hind quarter and a very light middle-piece. The shoulders and legs are, however, good; and he is more useful than his look would warrant an Englishman in believing possible, when comparing him with English horses.

THE AMERICAN AND CANADIAN breeds vary a great deal, and are made up of the original Spanish stock crossed with English, Arabian, and Barb importations. Cli-

THE DRAY HORSE.

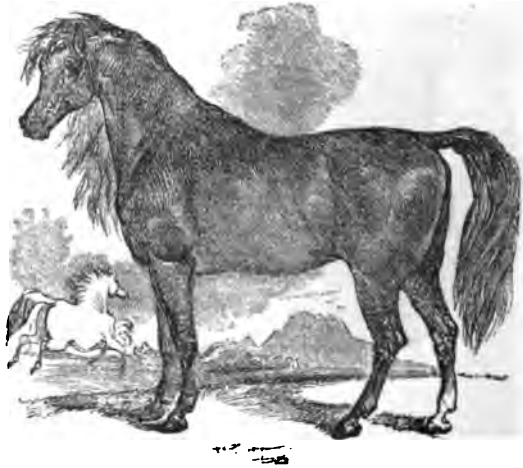
mate, however, has done much for them; and though not remarkable for beauty, yet they have all the wiriness of frame and elasticity of muscle which their masters possess. As trotters they are unrivalled, and in endurance stand very high; but they are not remarkable for beauty, though not showing any peculiarly unsightly points. Some of our best horses have been exported to America, especially to Virginia, where Tranby, Priam, and many others have done good service. The importers to that country have always been careful to select *sound* as well as stout blood, and have not hesitated to invest large sums in order to procure it.

THE ENGLISH THOROUGH-BRED I have already described at great length in the chapters on Racing, and the best mode of breeding horses for its various purposes, to which the reader is referred for full particulars; including also a description of the various breeds of hunters; and, in the chapter on Riding, I have alluded to the hacks which are made use of in this country, and the breeds from which they are derived.

THE VARIOUS BREEDS OF CART-HORSES are exceedingly numerous, but they belong rather to business than sport. Most of our larger and heavier breeds of these animals are crossed with the Flemish horses, and are thereby rendered heavier and more capable of moving heavy weights, which their bulk and readiness to try a "dead pull" render them well adapted for. The annexed sketch shows a good view of one of these enormous animals, often of more than 17½ hands in height. The Clydesdale, the Cleveland, the Midland Black Horse, and the Suffolk Punch are the four most highly-prized varieties of this breed; and have now almost completely shouldered out the old English black cart-horse, with his coarse head and mean ungainly appearance. It has been tried, again and again, to cross these four breeds with the Eastern horse, but though in the first cross it has sometimes succeeded from the superior purity of the thorough-bred horse, yet in future crosses the cart blood would show itself; and there has always been a want of endurance, and a tendency to throw out bony matter about the legs in the shape of spavins, ring-bones, and splents.

THE COACH-HORSE will be found described under the head of Driving, in all his varieties and forms.

THE CAVALRY HORSE may be considered under three several heads — first, the charger, or officer's horse; secondly, the heavy trooper; and, thirdly, the light trooper. The *charger* is almost always thorough-bred, or very nearly so, and is a horse bred for racing, but too slow for that purpose, yet with a fine form and good action, which are required for the *manège*. He must have good shoulders, so as to be



THE GALLOWAY.

able to use his fore-legs; and his hind-quarters should be so formed as to give complete command of the whole weight which he carries; in other words, he should be well upon his haunches. Most chargers are at least 16 hands high, and some still higher. The *heavy troop horse* is a discarded hunter, that is, a horse bred for that purpose, but considered too heavy to gallop the pace which is wanted. He is, therefore, sold at troop-horse price, which in time of peace was 24*l.*, now somewhat raised. The household troops are mounted on black horses, some of which are bred expressly for the regiments by Yorkshire breeders, and others imported from Belgium. The *light troop horses* are obtained from all sources, and many of them now, as might be expected from the price, are very wooden and inferior animals. The sum devoted to the purpose will not procure a good serviceable animal, coupled with tolerably good looks; and as this latter quality is sought for by colonels of regiments, utility is too often sacrificed to it. Very few of these horses are up to more than 14st., and yet they have to carry 18st., so that it is no wonder that in actual service they break down.

The Galloway is a breed which is much encouraged by the Welsh farmers, and some other districts where the grass is of a poor quality, and will not suit larger and less hardy horses. The sketch of a galloway, which is here presented, gives the form which is very common in Wales, and which is very serviceable for all general purposes, but seldom very fast on the gallop. These animals are said to be descended from Norman blood, a stallion of that breed having been much used in Wales, some years ago, among them. They are hardy and safe, but somewhat obstinate and unruly. The north-country galloways are scarcely so good in their shoulders, but they have more speed in the gallop, and make better covert-hacks in consequence. The smallest specimens of this breed make our ordinary ponies. Those not exceeding 13 hands being so called, while the galloway runs from that height to 14 or 14½ hands.

The Shetland Pony is the least of the species in this country, and often under 11 hands. They are very quick and active, and will walk, canter, and gallop, with good action, but seldom trot well.

Shetland Pony.

PART IV.

NATURAL HISTORY OF THE PRINCIPAL ANIMALS USED BY MAN IN RURAL SPORTS.

BOOK III.—GENERAL MANAGEMENT OF THE DOG AND HORSE.

CHAPTER I.
OF THE DOG.

Sect. 1.—General Remarks.

The Management of the greyhound and foxhound have been minutely described in all points relating to their kennel-management, feeding, exercising, and breeding, and it only remains to say a few words on the treatment necessary for pointers, setters, spaniels, and retrievers, including the Newfoundland. All these dogs are, in the usual way, chained up to a wooden kennel, with a length of chain which allows of no exercise; and the only advantage which they have over neglected hounds is, that they are generally kept clean for the sake of appearances. But too often they are fed irregularly, and on improper food, and almost invariably proper exercise is denied them. For these dogs Indian meal is by far the cheapest and the best kind of food, and with greaves it will keep them in good health, if they are only sufficiently exercised every day. But in many cases horse-flesh, being at times very cheap, is given raw, and often unmixed with vegetable food; and the master is then surprised if an eruption appears over the bodies of his dogs, when the chief reason for wonder is that any ever escape, with such a diet to stimulate and inflame their blood, and nothing to carry it off. This improper feeding and neglect of exercise are fertile sources of madness, and should be avoided by all who value their own safety; but besides this motive, which some may perhaps disregard, there is another, which every sportsman will carefully consider, namely, that dogs so mismanaged are almost always deficient in nose. It is very often said that there is no scent for pointers or setters early in the season, but quite as frequently they have not come to their noses, and it is only after a fortnight's work that they carry off the stimulating results of bad feeding. No sporting dog ought ever to be neglected, for he will seldom entirely regain his health, and without a full share of that commodity he will not be capable of making out a scent. Servants, therefore, ought to be well watched during the spring and summer, that the dogs may be attended to by them; and if they do their duty there will be very little reason to complain of birds flushed, or of sore feet, or knocking up. Sporting dogs (not including greyhounds) will seldom exercise themselves at a fast pace unless they are allowed to hunt; and as this is impossible in the summer, they should be taken out with a man on horseback once or twice a week on the road. Very little flesh should be given them, which is only wanted when they have severe work, and can seldom then be procured. Greaves, with meal, and occasionally potatoes, form the best food; carrots, cabbages, or turnips should be given once or twice a week; and a dose or two of castor oil, salts, or jalap will do good two or three times in the summer, or an aloetic ball.

Sect. 2.—Management of Breeding Bitch.

The directions for the management of the brood-bitch, given under the article Coursing, will equally apply to other sporting dogs; but few people will take the full amount of trouble which is there advised, and it will suffice if the whelps are sent into the country to be reared at the butcher's, or the tanner's, or at the small wayside public-house. When milk or buttermilk can be obtained, it is a good article to rear all whelps upon; but it is seldom afforded to ordinary dogs. The accidents likely to occur in whelping are alluded to in the part on the diseases of the dog.

Sect. 3.—Dressing.

Dressing, with a mixture of sulphur and train oil, is very generally adopted every year with sporting dogs, and if they

are mismanaged in their feeding, it is absolutely necessary; if, however, they are clean in their skins, it is not required. Soft soap and soda kills their fleas, as ordered for greyhounds, and white precipitate, ticks; but the latter should only be used with a muzzle on, to guard against its being taken into the stomach by the tongue. With these variations dogs may all be managed as directed by the hound and greyhound, making allowance for the difference of size.

CHAPTER II.

GENERAL MANAGEMENT OF THE HORSE.

Sect. 1.—Stabling and Stable Appendages.

The Stables for General Work differ little from those for hunters, which have been minutely described at page 457, where a ground-plan is given, calculated for 12 or 18 horses. Such a stable will equally answer for any private establishment where a similar accommodation is allowed; and for smaller numbers, one or two three-stalled stables on the same plan will be found to be more healthy than a single one of six stalls. For ordinary work, these are better suited than loose boxes, inasmuch as they are equally airy, and, on the other hand, the horses thrive better from the companionship afforded; but they are more roomy than most gentlemen will be inclined to afford their horses, especially in towns. In every case full light should be given, except in those instances where a great deal of work is to be got out of the horses, as in coach or cab stables, &c., where the necessity for repose at all hours, when not in harness, calls for darkness, or at all events, a very glimmering light. But in gentlemen's stables, few horses are thus worked, and they are much oftener kept within doors too long, than exposed too much to the hardships which hired horses too often endure. Light, therefore, and ventilation, may be considered as essential to all private stables, except those for racehorses, already excluded from our consideration by a special description. The best plan for the admission of light and for giving a satisfactory ventilation is described at page 458; but in all cases it is not possible to allow of the plan there proposed, and then a sufficient window, or windows, may be contrived at the side or back of the stalls, but always large enough to light the stable effectually. Even when windows are not to be managed at the heads of the horses, air-shafts may always be arranged, passing up from over their heads, which will keep up a free ventilation for their respiration In all cases, even of the lowest stables, a square tube of zinc or iron may be carried up through the hayloft, and pass out through the roof, and by its aid, the air may be kept sweet and wholesome. Side-draughts are to be avoided, but fresh air must be admitted; and this is generally to be effected by means of openings in the windows or door, similar in principle to those shown in the engraving of the windows of greyhound kennels at page 188. The drains should be always trapped, and conducted into the manure pit, just as shown in page 457.

Less Expensive Stables may be constructed with open stalls, but they should have them, at the very least, 6 feet wide, and 14 feet from back to front. If, therefore, a stable on this calculation is made to hold three or four horses, and is 10 feet high, it will give 840 cubic feet as the allowance of air for each horse, a quantity which is not quite half what I have calculated in discussing the nature of the respiratory process, as required for the full-sized horse. But, from long experience in my own case, and in that of others, I am satisfied that horses *in regular work* may be kept healthy for years together without a more ample allowance of air; and this is explained by the constant opening and shutting of doors, and by the leakage under them, as well as through other openings, which is always going on. A racehorse or a hunter is shut up after feeding, and is not disturbed for some hours, and during that time he receives no fresh air, except by the crevices in the doors, or the apertures purposely left open. But in the case of the hack or harness-horse there is generally a constant opening and shutting of doors during the day, while fresh horses are being taken out, or tired ones brought in; and also for the various stable operations, which are not all concluded with quite the same degree of regularity as in the former case. But, at

all events, let the reason be what it may, such is the result of general experience, and by common consent the *minimum* proportions for the stall of the full-sized horse are fixed as given above.

A CEILING should always be made, especially when a hay-loft is over; and in no case where it can be avoided should there be an opening through it for the high rack, which used to be so universally employed. This opening is constantly the means of throwing dust down upon the horse's head, irritating thereby the nose, eyes, and lungs; and it also admits the foul results of respiration to the hay in the loft, by which this is materially injured. The floor should be paved with stones, cut deeply in furrows, to prevent slipping; or with *hard* bricks or pebbles.

THE RACK AND MANGER should be of the modern plan which provides three separate receptacles, side by side, for the food of the horse. They are generally now made of cast-iron, enamelled, and with the front edge so wide that the horse cannot grasp it with his teeth, in order to prevent crib-biting, or wind-sucking. The hay is placed in a compartment on one side, which is generally made open at the top, and barred at the front and bottom, to allow of the dust falling through. By a recent ingenious invention the hay is always brought to the top of the rack in the following manner:—first, a top, barred so as to admit the horse's muzzle, is made to open like an ordinary lid; secondly, a false bottom is made to travel up to the top by means of a weight and pulley; thirdly, the hay is introduced through the opened lid by pushing down the false bottom, and when the rack is filled *loosely* the lid is put down and fastened; fourthly, the horse draws the hay out as he wants it through the upper bars, and as fast as it is eaten, the weight lifts the remainder up against the bars. This is said to economize the provender, but as I have never seen it used I cannot speak from experience. In the ordinary low rack I have never found that more than one-twentieth part is wasted, and scarcely that amount with most horses. There is no doubt a saving of fully one-sixth in the low rack over the high one, where the horse pulled down much more than he ate; but I cannot quite understand how the above plan can save much more than is effected by the open low rack. The manger for the corn is generally of the old construction, but a plan has been lately introduced by which the corn is supplied from a magazine at the back of the manger through a small opening, and is only submitted to the horse's breath when wanted. This also I have never seen tried, but for delicate feeders I should fancy it likely to be very suitable, as many of these animals are very apt to leave a little of their corn on all occasions, apparently from its being soiled by their breath, or from wetting it with their lips in picking it up. The third manger, for water or gruel, is now almost always added; and if not constantly used for water, is always handy for giving bran-mashes or gruel, which are very apt to make the corn-manger smell sour for some time after, although the enamelled iron almost entirely provides against this.

THE RINGS for the collar-reins should be two, one on each side, so that a horse is prevented from turning round in his stall, and thus in great measure from rubbing his tail. To understand how this is effected, it must be remembered that if a rein is attached to the right-hand corner, although it allows the horse to stand back five feet from the manger, yet it prevents his getting his head to the left more than five feet; and if another is also fixed to the left-hand corner, he is likewise prevented from moving his head more than five feet to the right, so that in both cases he is prevented from getting it so far that he can stand across his stall; whilst in a halter of the same length, merely attached to the middle of the manger by one ring, he could easily hang back, and get his head over the *travis*, or wooden partition, and so cross the stall, and even turn his tail against the manger, as is commonly seen in old-fashioned stables. The RINGS should be made to pull out, by having an arm slipped into a socket with a spring-catch, so that no force will draw them upwards and towards the horse, but if he has his leg over the collar-rein, a comparatively slight pull *downwards* will liberate the ring, and do away with the danger attending upon that accident. There is a provision against this which almost always answers, consisting in having a distinct tube behind the manger in which the collar-rein freely plays, so that no amount of litter can possibly interfere with its free action; for it is from this cause, in most cases, that the leg becomes entangled, the rein hanging down loosely in front of the manger, and being then caught by the leg of the horse. In some cases, however, the horse catches his hind-leg by reaching forward to scratch his head with the hind-foot; and here the freely running-rein is not a certain preventive, though in the vast majority of

cases it will prevent all risk. A RACK-CHAIN is also necessary in all stables, so fixed, that when hooked to the horse's head-collar, it will prevent the horse reaching his manger, or lying down. The ring is about 7 feet from the ground, fixed in the middle of the head-wall, and the chain is about 8 feet long, capable of being shortened to 2 feet.

THE TRAVIS is the separation between the stalls, which is generally 8 or 9 feet high towards the head, and about 4 feet 5 inches to 5 feet at the foot. A stall-post from the floor to the ceiling should always be fixed, as without it there is some danger of the post giving way in cases of accidents, by which sometimes two horses are severely injured, instead of one perhaps only slightly. These partitions are often made very expensive, in consequence of the upper rail being cut out of the solid oak in a sweep; but if three straight rails are morticed in from the post to the wall, and the elm boards are nailed to them and cut off at the top in the desired sweep, it is only necessary to nail the fillet of elm of half an inch substance along the top, and everything is obtained which the much more expensive compassed top-rail would give. A ring is fixed to each stall-post, at about 8 feet from the ground, to which the head reins, or chains, are attached, which keep the horses in their places when turned round in them saddled or harnessed, and ready for work. In all private stables two or three *gangway bales* are made to slip into mortices in the stall-posts, and to run from them to the wall, so as to prevent the horses at night from injuring each other.

BALES are sometimes used instead of travises, especially in military stables and those belonging to public-houses. Here a strong oak rail is suspended between the stall-post and manger-post by a short chain, so arranged that in case of necessity either end may be readily liberated, which is effected by a hook and travelling ring; the latter slips over the hook and attaches it to a slide, but on being raised along its traveller, it liberates the hook, and the bale falls to the ground. With bales horses can be stowed much more thickly than with travises, because they give way to them as they turn, or as they get up or lie down; and 4 feet 6 inches, or even somewhat less space will in this way suffice for each horse; but there is considerable danger from the kicks of the adjacent horses.

THE HAY AND STRAW CHAMBER may either be on the ground-floor or above the stable; but in every case it is better to have no opening between them, as neither of their contents improves those of the other by contact. If in the loft over, the same opening which admits the hay from the waggon allows of its being brought down for daily use; and even in wet weather a few drops of rain upon hay which is at once going to be used, is not by any means prejudicial to the horse's health. It may be carried by hand from the ground in front of the loft door, or from the hay chamber, if below, to the horse's rack. In most stables provision is made for a load of hay, which is usually in the country nearly two tons, or, in London, about one and a half; and the chamber for storing this quantity should be of the size of a roomy loose box. When hay is supplied in small quantities from the corn chandler, there is no necessity for such a provision, and room for a week's consumption only is required; but for economical management, space for a load of hay must be calculated on, and also for a similar bulk of STRAW.

THE CORN CHAMBER is always on the ground floor if possible, because access to it is wanted four times a day, and it is not convenient to be always running up and down stairs. But it should be raised from the ground, for two reasons—first, to keep the corn dry; and secondly, to keep vermin away, which can only be effected by the use of stone or iron supports, with proper guards above. If economy is studied, and a good granary is provided, corn may be bought by the 100 or 200 bushels, at a much lower rate than from the chandler; but unless provision is made for protecting it from rats and from damp, much more is wasted and spoilt than is saved by a reduction of price. The chamber should be about 12 feet by 8 to hold 100 bushels; and if the consumption is not pretty rapid, a larger space than this is required to turn it over every month or two. Air must be freely admitted, and, of course, it should be kept under lock and key.

DAMP STABLES are especially to be avoided, whether from newness, or from being partially underground, or from being badly drained. Whatever the cause, it injures the health of the horse, and he can never be kept free from colds, coughs, &c., while in one so constructed as to produce damp. It should therefore be prevented by removing the cause, which may be effected in almost every case, even underground, by proper drainage. If a stable *must* be under the surface, it is better to curtail its proportions by building an inside wall, leaving

an air-drain all round between it and the old wall, than to allow it to remain damp, and this is generally the cheapest way of effecting the change; for in order to get at the outside there is generally a vast deal of valuable surface to be interfered with, and even then almost as much brickwork must be employed as in the internal wall, which need never be more than nine inches thick, which, with a three-inch interval, will cut off two feet from the length and one foot from the depth, because few stables require the head to be cased, that being already provided for by a separate lining; but sometimes, if very damp, the second wall must even then be built, and in that case another foot must be allowed for.

THE SADDLE-ROOM should be of a size proportioned to the number of horses; but even for a single horse it should have provision for drying the saddle or harness, and for heating water. Cupboards for the various stable-utensils should be provided, and hooks and saddle-stools, or brackets, for the saddles or harness. Sometimes in small establishments these are kept in the groom's sleeping-room, or in the kitchen, and wherever there is a fire they may be well preserved; but the stable itself is always injurious to them, keeping the lining damp, and rusting the metal, of whatever kind it may be. In large harness-rooms, when there is proper care taken of the articles placed there, a long curtain, or a sliding set of doors is drawn in front of them, when cleaned and put away. In most of these there is a fire kept constantly burning during the winter, and by its means the saddles and harness are dried, and the water warmed for stable use; but if a saddle-room can be built against the back of a kitchen fireplace, this is seldom needed, and sufficient heat and warm water may be economised to serve the purpose of the stable-man, except perhaps an occasional fire in very wet weather. The harness-room should always be well lighted, and it should not *directly* communicate with the stable, if it is possible to avoid it.

THE STABLE-YARD requires to be roomy enough to wash a carriage, and therefore large enough to wash a horse. It is a good plan to cover in a small part of it, leaving the sides open, so that a horse may be washed under cover, without exposing him to the rain, and so as to prevent him making a mess in his stall. When the number of horses is such as to allow of the stables being arranged round a square, a shed all round, as in the plan at page 457, is of great utility, inasmuch as in the summer it allows sweating horses to be walked in the cool till they are dry, and in the winter it permits of their being exercised in rainy weather without suffering. Part of this will of course suffice for washing under.

THE STABLE APPENDAGES always required, are buckets, whalebone brooms or besoms, forks, body and dandy-brushes, curry-combs, mane-combs, bandages, leathers, rubbers, sponges, foot-pickers, and scissors. If for harness horses and for cleaning carriages, there will be wanted also spoke-brushes, mops, jacks, harness-brushes, and brushes for the lining.

THE LODGING-ROOM for the groom or coachman is generally over, or near, the stable; and it should, at all events, be so near as to allow of any unusual noise being heard by him, for sometimes when a horse is cast, or has the colic, he dies for want of that assistance which could be readily given if his state were known.

SECT. 2.—COACHMEN AND GROOMS.

THE VARIETIES and grades of the attendants upon horses are very great, even after excluding all those who have the care of race-horses and first-class hunters. They are, however, chiefly coachmen, grooms, and helpers; the two first having the charge of harness, and saddle, or gig horses, respectively, whilst the last is only an under-strapper, and acts under the superintendence of one or other of the two first. Some of this class of men are very intelligent, honest, and humane, but a very large proportion are ready to rob their masters, and care not how their charge suffer from their neglect or fraud, so that they can indulge their appetites for drinking, and other bad habits. This often arises from the ignorance or apathy of the master, for if he either does not know how, or does not care, to see that his horses have justice done them, it can scarcely occasion surprise that his servant will not look after his interests better than he does himself. Many a servant would be honest if he thought his dishonesty would be detected, or if he felt sure that his diligence would ensure approbation; but when he finds that, whether he brings his horses out in good condition, or whether he gives them only half their corn, he is equally well thought of: it is more than can be expected from human nature, if he continues perfectly unaffected by such treatment. Every master ought to know all the honest secrets of the stable, and should be able to detect when his horses are badly done. Then let him find fault if this is the case, but let him also praise his

servant when all is as it should be. In this way encouragement is afforded to the good and honest servant, and the bad one is soon discarded.

THE GENTLEMAN'S COACHMAN should be a good groom as well as coachman; but in many families he is allowed a helper under him to do the hard work—such as strapping the horses, and cleaning the dirt off the harness. Many men, however, engage to look after a pair of horses and a carriage, and do the entire work; but to perform this well, and, in addition, to drive, a man should not be beyond the prime of life, or he will assuredly be unable to dress his horses properly. When it is considered that each horse, *if he goes out*, will altogether take a man more than two hours in the day to dress him, and that the carriage and harness will require, at least, from two to three hours more, it will appear that there is not much leisure left, after the time spent in the drive, and in dressing and cleaning himself for other work. It should be recollected, that the time I have allotted is fully occupied with hard work, sufficient to make a man sweat freely; and that few men are capable of this for more than seven or eight hours a day, although they may pretend to be engaged for twelve or fourteen. The driving is the most important part of the duties of these men, because upon this depends the safety of their masters or mistresses, and, of course, this is to be cared for before the health of their horses. A coachman, therefore, should be a good whip, and sober, for the direct benefit of his employer; and clever in the stable, as well as industrious and honest, for his advantage, indirectly shown through the care taken of his horses. He should also know all the ordinary slight ailments of the horse, and be able to give a ball, and to make and give mashes, as well as how to prevent swelled legs, or to manage slight wounds, and to perform all those little necessary offices which the sick horse requires. Civility is of course a virtue, the absence of which is easily detected and punished.

THE GROOM is the man who engages to look after and exercise saddle horses, or those harness horses which are driven by their owners; and which he only drives on occasions when he is especially called upon to do so, or in bringing them from the stable to the door. He should be as capable of managing horses as the coachman, but he need not always be a first-rate whip; though, as he often has to drive his master's horses in his absence, he should be well able to manage the reins. In all other respects he should possess the same qualities as the coachman. Two horses and a gig, or three horses without, comprise the usual work for one man; inasmuch as he has generally to go out with his master for a part of his time.

THE HELPER is generally a hard-working man, or lad of 18, who is able to strap a horse well, and do all the mechanical work of the stable; but is wholly incapable of taking the management, or is so uncouth in his person as to forbid his employment in livery. The last is a very common reason for some helpers always remaining understrappers; they are excellent in that capacity, but so unwieldy in their movements that they would disgrace a neat livery, and would sit beside their masters with all their native clownishness. If, however, they are honest, civil, and industrious, they are often very desirable acquisitions to a large stable, and frequently do all the hard work of these establishments. These men often do four horses well, and in livery yards or coaching establishments double that number; though, in this latter case, the horses are of course not so well dressed as in private establishments.

STABLE-BOYS must learn as boys somewhere or other, because it is a trade which is seldom learnt after this age; but I wonder that any master who can help it encourages their employment, knowing how frequently they play tricks with or neglect his horses. Under a steady and strict coachman they may be made very useful, but they should seldom be trusted to do anything of importance out of his sight. When first put under him he will, of course, show them everything which they have to do by example; and, if naturally quick, they soon learn to carry out all the stable operations in a very efficient manner.

SECT. 3.—GROOMING.

BY GROOMING is understood the general manual arrangement of the horse and his bedding, separating the whole into three portions; the first of which includes his grooming, the next his feeding, and the third his exercising. The grooming begins very early in the morning, but the hour depends very much upon the time when the stable was shut up the night before; for if a pair of horses are kept out till twelve o'clock, they ought not to be disturbed before seven or eight the next morning. In the usual way, in private stables, six o'clock in summer, and seven in the winter, is the time for beginning work. The first

thing is to give the horse a few go-downs of water and to feed him; during which the groom turns back the litter, and "mucks out" the stable, by which is meant sweeping out the wet litter, and the absolute dung dropped during the night. When he has fed, the horse is either at once dressed, or he is taken out to exercise; on returning from which he is pretty liberally watered, and then dressed over thoroughly; for a minute description of this process (which ought to be the same in all stables, though it is often very inefficiently performed), see page 411. After the dressing is over, the horse usually remains till eleven or twelve o'clock, when he is again fed; and then, if not used, he is left till four or five o'clock, when he receives his next feed of corn and a little water. At six or seven o'clock he is whisped over, his bed is turned down, a night-rug, to save soiling the best one, is thrown over his usual clothing, or in some cases substituted for it, and he is locked up for the night, after receiving his last feed and his allowance of hay, which are generally given at from seven to eight o'clock. Such is the ordinary day's work, independently of the results of the use of the horse, by which he is rendered dirty from sweat, or road dirt, or both; and his saddlery or harness also made dirty and soiled.

Dressing after Work is effected as follows, but much depends upon the nature of the work and the state of the roads. In all cases the legs and feet should be washed out, which is done with a bucket of lukewarm water and a brush, beginning on the near side, and washing both without moving to the other. If the weather is very warm he may now be walked about till he is cool; or if he is covered with dirt, his belly and flanks, as well as his tail and legs, may all be washed rapidly with warm water. Many grooms use the besom to get this off, but as the body is already wet from the dirt, no harm can result from a repetition of the water; and, as the horse is not rendered nearly so savage by it as by the irritation of the besom, it can be carried out much more thoroughly, and finished in a much shorter time. As soon as he is washed a rug should be thrown over him, and his legs should be bandaged with flannel; he is then returned to the stable, and fed; during which, and without removing the rug, but merely turning up one side, he may be thoroughly dried under his belly and between his legs, and also his tail wiped tolerably dry. After this is done (by which time he will have eaten his corn), he may be dressed over, with the exception of his legs, which still have the bandages on, beginning with his head, and turning him round in his stall for that purpose. Finally, his bandages are removed one by one, and his legs dried and well rubbed down, and then he may be fully clothed and left in his stall as usual.

Sect. 4.—Feeding in the Stable and out.

The Food upon which the horse is fed in Great Britain, in almost all cases, consists of hay or green-meat as the staple, together with the addition of one or more of the following articles—namely, oats, bran, beans, carrots, turnips, or potatoes. Barley is only given to farming-horses in this country, though abroad it is very commonly substituted for oats; as green food, common grass, vetches, Lucerne, and rye (common or Italian) are generally given. When green food is used in the stable it is called soiling the horse, and when given in the fields, turning him out to grass.

The Hay given to horses at fast work, whether on the road or for hunting, should be in all cases of upland quality. Meadow or clover-hay is only fit for cart-horses, which require a considerable quantity of fatty matter, and do not sweat to any great extent, nor is their wind tried as in fast work. Green hay is not good, there being less nourishment in it than in properly fermented, and therefore brown, hay; and though it does not prove that the hay is new, as is very commonly supposed, yet it is not nearly so wholesome as the brown variety, provided it is not mouldy, or burnt from overheating. Hay should be cut from the inside of a large rick, at least one year old, and should be very sweet and fragrant; it is better tied together in trusses, which are in most counties 56lb. each, so that the weight of a load is easily estimated by counting them. Not more than two or three months' consumption should be stowed away at one time, as it is liable to become mouldy and musty, and it will then be refused by horses, or, if taken, it will disagree with their stomachs. The quantity which a full-sized horse at strong, but moderately slow, work will consume, is about 84lb. per week, or from that to 98lb., which latter quantity some washy large horses absolutely require to keep them in health. There is a vast difference in horses in respect of the weight of hay necessary for their full condition; some will eat nearly twice as much as others, and yet not be half so strong, or look nearly so fleshy and full of health. Although, therefore, it is necessary in cavalry stables, and other large establishments,

to give a stated weight to all horses alike, it is only because there would otherwise be no check upon fraud and extravagance, and not from the belief that all can fare exactly alike without some of them feeling the ill effects of the treatment. I have often had two medium-sized horses in my stable which together lived upon as little as another larger horse in similar condition consumed to his own share. Nevertheless, 12lb. may be considered the average for full-sized horses; but no master should make up his mind that his one horse is sufficiently fed if he has that quantity, for it may very probably happen that he is one of those hungry ones which will require at least one hundredweight per week, especially if the rack is a high one, and the groom is not very careful to replace the wasted hay. In all racks the hay should be lightly put in, and not pressed down, for if it is, the horse will be sure to pull out more than one mouthful at a time, and if his attention is called to the foot of the stall, he will turn his head round and bring a quantity of loose hay with it, even if the rack is as low as it should be.

CHAFF is hay cut up with straw in a chaff-machine, which may be the old box-and-knife used with the hand, or it may consist of any of the various chaff-engines which are now sold by the machine-makers, and worked either by the hand or by horse or steam-power. The hay used is in most stables the coarse parts of the usual quality employed, which would otherwise be rejected, and sometimes even the haybands are cut up in this way. It is arranged in the trough of the machine with alternate layers of straw, so that the chaff when cut consists of portions of hay and straw about an inch long, mixed in nearly equal quantities. It is given to many horses as their sole fodder besides their corn; but I do not believe this plan is a good one; and I think that the only use of chaff is to make the horse chew his corn by mixing some chaff with it. If more than this is given the horse does not masticate it nearly so much as he would do in the shape of hay, and therefore digestion is not so well performed. When horses are very hard worked, and are fed almost entirely upon beans, as in coach-work, and when it is an object to get them to feed quickly, so as to lie down as soon as possible, chaff is, I think, better than hay; but in ordinary private stables, I cannot advise its use, and this conclusion I have arrived at after a careful trial of both plans for a considerable time.

OATS AND BEANS, together or separately, come under the general name of horse-corn; and most horses at hard work in the winter require both, especially if they are not very young. Oats are always given to horses in private stables, and they form the best general addition to the hay; but sometimes soon after the horse has changed his coat, he becomes very flagging and unable to bear his ordinary work, especially if he has been much exposed to wet or cold; in this case, the addition to his oats of from half a quartern to a quartern of beans during the day will often renovate his spirits and strength, when he rapidly gains flesh. In young horses this addition may be discontinued after January, but in old ones it should be kept up till the following May, after which month few horses are the better for the extra stimulus afforded by beans. They should always be split, and oats are generally the better for being bruised, or "kibbelled," as it is generally called; and for both these purposes a mill is constructed and sold, which, by the alteration of a screw, will adapt itself to either operation. Both oats and beans should be one year old, or at least six months; at which age, if the harvest was a dry one, both oats and beans will often be dry enough. It is generally supposed that all good oats should be at least 39lb. per imperial bushel, but this is a mistake, for the quality, *as compared with the price*, does not always depend upon the weight. Every horse requires a certain amount of the oatmeal contained in the oats, and so long as he has that quantity, it matters not if a little more chaff or husk is added to it. Hence, as light oats are almost always cheaper, *in proportion*, than heavy ones, it will often answer better to give a horse one pound's worth of light oats than the same sum laid out in heavy ones. In ordinary road-work, when horses seldom have as much corn as they will eat, I have tried the experiment a dozen times; and I have found that a pound laid out in the purchase of inferior corn, *if sweet*, will go further than the same sum expended in the purchase of the first quality. With racehorses and first-rate hunters the case is very different, in them the appetite is the measure of their corn; and, consequently, since most horses will eat the same bulk, whether heavy or light, they are best fed with good sound old English oats at whatever price they may be in the market. Hacks and carriage horses, however, seldom are allowed more than three or four quarterns a day of English oats; and if they have, instead of

these heavy oats, one quartern more of Irish or Welsh, they will do much better. The difference is still greater if it is between half a peck of English and three quarterns of Irish, because most horses like to have their stomachs tolerably filled with their corn, which half a quartern at a feed scarcely will do. Now, when English oats are at 3s. 6d. per bushel, Irish oats are generally about 2s.; and, consequently, three quarterns of the Irish may be given for the same price as two of the English, which exactly accords with the calculation I have made above. In purchasing Irish oats care should be taken that they are free from stones, or, if they are mixed with them, they should be removed before being given, by examining the sieve containing them. This is the worst feature in this kind of corn, and sometimes exists to a great extent. Beans are of all qualities, from the best English to the Egyptian; but as a general rule, for private stables I fancy the English answer the best. They are used more as a stomachic than as regular food; and for that purpose quality is of more importance than quantity. In cart-stables, or for coaching or fly-work, foreign beans may be used, but I have never myself found them answer my purpose well. By purchasing Irish oats of the importers at Liverpool, London, or Gloucester, an immense reduction in price is effected; and they may readily be conveyed by rail to most parts of England, at one penny or twopence per bushel extra. GRUEL is made by mixing oatmeal in cold water; and about a pint of meal will make four quarts of gruel. This is enough for ordinary occasions, but for a very exhausted horse, two pints should be mixed with about the same quantity of water; and boiled for ten minutes, carefully stirring it the while. It should be given with the chill just taken off.

BRAN is the outside coat of wheat, removed in the dressing after grinding. It is only used in private stables for mashes and poultices, though sometimes it is given with beans as a regular article of food, just as is the case in cart-stables. With their addition it answers pretty well in slow work, but not nearly so well as oats, and its price alone is a temptation to its use.

THE BRAN MASH is one of the most valuable kinds of food for sick horses, or for preparing horses in pretty good health for physic, or for cooling down those which are to be turned out to grass. It is made either as a *cold mash* or as a *hot mash*—the former being merely bran, with the addition of as much cold water as it will absorb. The HOT BRAN MASH is made by pouring enough boiling water to saturate it, and then covering it up till sufficiently cool to give the horse. As the bran swells considerably, one-third of a bucket of bran is enough to make half-a-bucket of mash, which is the usual quantity given. Most horses on hard and dry food are the better for this once a week; and it should be given on the night before their rest day, which all horses ought to have; and when so used, it may be allowed to supersede the use of their evening feed of corn; but if it is given more frequently to a costive horse, it must be in addition.

CARROTS, TURNIPS, AND POTATOES are useful to horses doing slow work, and bare of flesh; but they do not answer for fast work, nor for horses which are apt to scour. Of the three, the first is the most suitable to horses; and when they are to be made up for sale, and got very "fresh," as the dealers call it, a few carrots boiled with linseed will effect the object much quicker than any other kind of food, especially in the early spring, when vetches are not to be had. This food is also useful in chronic cough, and will sometimes effect a cure; but it must not be given while the horse is at work, as he is very much inclined to sweat while eating it, and will then lose as much as he gains. Swedish turnips, or potatoes, are substitutes for carrots, but they do not answer the purpose nearly so well. Both of them should be steamed, not simply boiled; or if the latter process is adopted the water should be thrown away, as it is not wholesome for the horse.

BARLEY is sometimes given in slow work either raw or boiled, or malted. Grains also are often mixed with chaff, and given to cart-horses with good effect. I am not aware of any advantage attending the use of this kind of food in private stables, except that sometimes when barley is cheap a horse may be kept at a lower rate than upon oats or beans; and I am inclined to believe that, from the tendency to disease produced by their use, in the long run they would be found much less profitable than ordinary horse-corn.

MAIZE, or INDIAN CORN, has been very little tried in this country, but in America it is found to agree well with all kinds of horses. It agrees so well with dogs, poultry, and cattle, that I think it should be tried with horses, when expense is an object.

LINSEED is a valuable adjunct to horse

feed, but it should only be used in small quantities, and for short periods. When employed in this way it makes the skin feel "kind" and soft, and often, as before remarked, gets rid of an obstinate chronic cough. Half-a-pint is the usual quantity, boiled slowly for some hours, and mixed with bran, or bran and carrots, or sometimes with the usual feed of oats.

THE USUAL APPORTIONMENT OF FOOD is as follows:—Two-thirds of the hay is given at night, and one-third in the morning, with a feed of corn each time; at 11 or 12 in the morning, and at 3 or 4 in the afternoon, another feed is given; and the corn is equally divided among these four feeds, whatever it may be.

SOILING is a term used for the feeding of horses on green food in-doors; but as it has already been fully described for hunters at page 461, the reader is referred to that article for its mode of management.

TURNING OUT TO GRASS is useful when the health is injured by long-continued hard work and dry food, or when the legs are sore, or the feet inflamed. For the former state a summer's run is the best remedy, because at that time the grasses are the most sweet and nutritious, and the constitution is not tried by exposure to the cold and wet; a meadow should be chosen where there is plenty of good and sweet grass, and the horse should be gradually prepared for the change, except in the height of summer, by taking off his clothing while in the stable, allowing the dirt to accumulate in his skin, and also reducing the temperature of his box. In the summer, tips to his fore-feet will generally be prudent; but in the winter, when the ground is always soft, they are seldom necessary. If the legs or feet are "stale," a winter's run will do far more than the same time occupied in the summer's run, because the object is not only to avoid fresh battering of them on hard ground, but also to lower the whole system by a poor and reducing diet. Winter-grass, therefore, will effect the object very differently from the fattening feed which is met with on the meadows during summer and autumn; and by turning the lame horse out in December great good *to his legs* may be expected when taken up in the following May, before which time it is not to be expected that he will be sufficiently in flesh, and his coat smooth enough for any work. Whether in summer or winter, every horse accustomed to a stable ought to have a hovel to run into, which protects him from flies in the hot days of summer, and from the wind and snow in the cold nights of winter. If in the winter his flesh is wanted to be preserved, hay and corn must be given, and when the horse is to be used early in the spring they always ought to be afforded; but for severe lameness there is nothing like a couple of months' comparative starvation, which keeping him on winter-grass is to the stable-fed horse.

THE STRAW-YARD affords another mode of improving the legs of the over-worked horse, and in it he is turned during the winter, with a shed to run into, and the soft manure or litter in the middle of the yard to run upon. Hay is given, but seldom more than enough to keep the stomach in order, and barley-straw affords the chief sustenance in most cases; sometimes a little hay is given cut as chaff with straw, and in some cases also mixed with a feed or two of corn per day. When a suitable winter pasture cannot be obtained, the straw-yard is very efficacious for inflamed legs and feet; and, as its small extent precludes all galloping about, it is often even more suitable than any open pasture. Tips may be entirely dispensed with, and when the toes are pared down close, as in the "seedy toe," or when the horny foot has come off, as in inflammation or fever of the foot, the straw-yard affords the very best chance of a speedy growth, especially if the regular application of pitch, &c., can be depended on.

SECT. 5.—WATER.

SOFT WATER is in all cases better for horses than hard, hence they are often watered in a brook or pond in preference to the bucket, which is generally replenished from the well. If, therefore, soft water can be easily procured, it should in all cases be given, but I do not think that with our present warm stables it answers well to allow the horse to slake his thirst at the pond or brook at all seasons; cart-horses may do so with impunity, because they are seldom heated with their work, and their stables are comparatively cool. Boiling gets rid of a great proportion of the lime, and where it exists in great quantities it is advisable to give all boiled water. The TEMPERATURE of the water given should in all cases be that of the stable, or very little below it; and so in the warm one the water must be raised to at least 70 degrees of Fahrenheit, by mixing a little hot water with the cold, or by leaving the bucket full of water constantly in the stable, and only using it when it has acquired the temperature of the stable. If cold water is given to a horse used to it chilled and to warm

stables, it sets the coat the wrong way directly, and often produces colic, or shivering, followed by rheumatism; and this is especially likely when he has undergone any violent exertion, *and is becoming cool from it.* It does not do nearly the harm while the horse is reeking with heat and perspiration that it does when given to the tired horse just cooling down from his exertions. If, however, chilled water is generally given, it should rigidly be adhered to when the horse is travelling, for an animal used to it is far more likely to be injured by cold water given when in a sweat than the one which habitually swallows it at a low temperature with his ordinary food.

THE QUANTITY OF WATER proper for the horse varies very much, depending upon his tendency to purge, upon the amount of sweat which he loses in his work, and upon the nature of his work; about from one and a half to two ordinary buckets per day is the average for private stables, depending upon the size of the horse and the severity of his work; and if water is allowed to stand constantly in the stall few healthy horses will drink more than two buckets per day. About half a bucket is generally given in the morning, another half in the afternoon, and the remainder the last thing at night. More than a couple of quarts should never be given on the road, even on the hottest day; but this quantity may be repeated every five or six miles with advantage, if the weather is very sultry, with or without a little oatmeal. It is seldom advisable to give the full quantity of water immediately before or after the feed of oats, but rather to let the horse drink about two quarts, and half an hour after his feed to let him have the remainder. But if the oats are not given for half an hour, the water will not hurt if all is given at once.

SECT. 6.—CLOTHING AND BANDAGING.

THE CLOTHING for private stables may be either composed of the strong serge made on purpose, and cut and bound in the regular way, as a quarter-piece, hood, breast-cloth, and pad-cloth; or it may consist of a single large and warm rug, which, however, will last much longer if bound with galloon. In either case a roller with double straps is required to keep the cloth on; and even with the simple rug a breast-girth should be sewn on, so as to keep it over the chest during exposure. In many stables a suit of best clothing, made with good serge, is put on during the day, and a warm rug, or sometimes two, at night, by which means the best is kept clean, and will last a long time without washing. A careful stableman will see that these expensive articles are mended as soon as they show signs of requiring it, as nothing proves more completely the truth of the old adage, "A stitch in time saves nine." Some use in the summer a light suit of brown holland bound with galloon, but I have so often found my horses take cold while wearing it, that I should never try it again. They will stand very well without any cloth on, but if any kind of flaxen material is put on it chills them at once, and they get a cough, and turn their coats the wrong way inevitably; at least such has been the result of my experience. If the weather is very warm the clothing should either be removed entirely, which is the best plan, or a quarter-piece of a very light woollen fabric, such as is sold at all the saddlers, should be put on. BANDAGES are of two kinds, flannel and calico. Each is composed of about three and a half yards of stuff in length, by about eight inches wide. The flannel is of a twilled fabric, made on purpose, and sold to the saddlers; the calico is of the coarse unbleached quality; one end is square, the other has the corners turned down to make a point, and to this a couple of strings, about a foot long, are sewn. This end, with the strings, is rolled up within the rest of the bandage, and consequently remains at the part which finishes the rolling, and then the strings serve to fix it firmly to the leg. Flannel-bandages are used after washing the legs, or when they are too cold, as in certain diseases affecting them; or dipped in hot water, and used as fomentations. Calico bandages are employed either as a means of using pressure, or for applying cold by wetting them in cold water, or in lotions expressly prepared.

SECT. 7.—CLIPPING, SINGEING, AND TRIMMING.

CLIPPING is now carried on as a regular trade throughout the whole of Great Britain, and few private grooms, for want of sufficient practice, are able to compete with the regular clipper. These men work in the most wonderfully persevering manner, since their season is a very short one; and I have known two men continue at this tiresome business for twenty hours out of the twenty-four during a whole month, with the single exception of the Sundays. A slight singeing is generally given after-

wards, and then a sweat, which is said to prevent cold, and at all events enables the burnt ends of the hair to be rubbed off. A good washing with soap and water answers equally well, and is attended with no danger whatever, if the horse is rapidly washed and as rapidly dried. SINGEING is now almost always done by gas, and with its aid almost any handy groom can keep a horse's coat in good order, if he is not in too great a hurry, and burns it regularly, and not too much at a time. Where gas is not at hand, it is better to send the horse to it, as the gas-singed coat looks so much smoother than the coat singed with the naphtha-lamp. The practice generally adopted in well-managed stables, is to begin to singe in the autumn as soon as the coat has grown longer than is desired, and to repeat the operation as often as it is necessary to do so. TRIMMING with scissors is now little practised, but some very hairy-legged horses must have a few hairs removed in that way, or they would look complete cart-horses. All however that can be drawn with the aid of a little resin in the hand should be so removed, and the remainder clipped close. The trimming-scissors are also required to square the tail, which should be combed out and held in the position in which it is usually carried while it is being cut; for if it is squared ever so well in any other position, it is out of all shape as soon as it is changed for the natural one, and the trimmer must repeat the operation. Most grooms fancy themselves able to square a tail, but few can do it really well, as they are apt to leave it either too full in the middle, or too hollow, or cut more on one side than the other. The long hair about the jaw should be pulled out, and what cannot be removed in this way should be singed; but in well-bred horses the fingers will readily clear the jaw.

SECT. 8.—STABLE VICES.

STABLE VICES may be considered to include the following long list of offences against the code of laws made for the stabled horse, and enforced by the stablemen. They are:—1. Getting loose from the head-stall. 2. Hanging back. 3. Leaping into the manger. 4. Turning round in the stall. 5. Lying under the manger. 6. Halter casting. 7. Casting in the stall. 8. Kicking the stall-post. 9. Weaving. 10. Pawing. 11. Eating the litter. 12. Kicking at man. 13. Biting. 14. Crib biting. 15. Wind sucking.

GETTING LOOSE is a very troublesome vice, and many horses are so cunning as almost to defy the efforts of the groom and saddler. If, however, a head-stall is made with a strong throat-lash, and this tightly buckled, no horse can get it off, because the circumference of the head at the jaw is always greater than that of the neck from the back of the ears to the throat. If the horse bites his halter, a chain must be substituted; but as this makes a constant noise, it should be avoided if possible, as other horses are readily kept awake by it.

HANGING BACK IN THE COLLAR, is an attempt to get free, by bursting the throat-lash or collar-rein, and in some cases great force is applied in this way, so much so that many horses have broken their hips from the sudden giving way of the halter letting them back so that they fall over and injure themselves irremediably. The only cure is a strong chain, and a head-stall that no force will break; after trying to burst which a few times, the horse will almost always desist. If the manger is not very firmly placed, another ring should be fixed in the wall by piercing it and screwing a nut on at the back. The groom should likewise watch for the attempt, and will flog the horse from behind immediately he sees him beginning.

LEAPING INTO THE MANGER is generally a habit acquired by remaining too long in the stable without exercise, or from being too much threatened with the whip, as in dealers' stables. If a horse is constantly attempting it, he must be kept down by a short halter, which will not suffer him to get his nose high enough. Sometimes there is some little difficulty in bringing a horse down from his position; but by going quietly up to his head, and pushing him to the opposite side of the stall, and at the same time back, he may generally be managed without risk to either man or horse.

TURNING ROUND IN THE STALL is avoided by the use of two reins, as already mentioned in the description of the Stable and its Appendages, page 678.

LYING UNDER THE MANGER is an awkward trick which some young horses have, apparently from trying to get out of the way and hide themselves. Sometimes they are unable to get up again from striking their heads against the under side of it when they try to rise, and they must even be drawn back by a girth round the breast before they can be rescued from the position, which has been known even to cause a fatal result. The modern low rack is a

great preventive of this vice; but sometimes even with it the colt will get his head under, and the only remedy is to board all up flush. This expedient effectually prevents the head going under, and should be adopted in all bad cases.

HALTER CASTING is the getting either leg over the halter, and so being thrown to the ground and kept there. With a rope halter, or with a chain, a very ugly wound is sometimes made in the struggles to free the leg, and often the tendons are exposed and their sheath sadly torn. The accident arises from the horse pawing with his fore-leg, or trying to scratch his head with his hind-foot, while the "sinker" attached to the halter is prevented from playing properly, and so leaving the halter or collar rein hanging loose. The spring bolt described at page 678, is the proper guard against this accident, inasmuch as, though it does not prevent its occurrence, it removes all injurious consequences, especially where two collar-reins are used, because the leg is seldom over both in one night, and the one being liberated does not affect the other, which still prevents the horse from leaving his stall.

CASTING IN THE STALL is the result of the natural tendency which most horses have to roll completely over, and which, in a state of freedom, is not attended with any danger; though, even in the grass-field, when the ground is hard, I have known the withers seriously injured by constant attempts to roll over. When, however, the attempt is made in the stall, the horse often gets completely thrown upon his back against the wall or the travis, and is then unable to get back again, and lies powerless, yet struggling fearfully, and often to such an extent as to rupture the colon, and so cause speedy death. Sometimes the horse is found in the morning lying across the stall, doubled up in the most awkward manner, and with his legs inclining towards the manger; at others, he is lying back as far as his rein will allow, with his hind-legs partly in the next stall, but always in a helpless condition. There is no preventive against the accident, but it may easily be remedied when discovered, and hence the advantage of the groom sleeping within hearing of his charge. Two or three stirrup-leathers buckled together, or a halter thrown over both legs, will readily draw the horse over on his side, and he then can get up without further assistance.

KICKING THE STALL-POST is injurious both to the kicker, and very frequently to his next neighbour, who may come in for the blow intended for the inanimate wood. It arises from idleness, and is often continued almost incessantly night and day, except, of course, while the animal is lying down. Hard work is the best remedy, but when that is not practicable, a branch or two of furze nailed to the post will often stop the habit, though in one case I have known it aggravate a mare almost to madness, and she kicked herself almost blind with fury. Mares are said to be much more subject to this vice than geldings, but as far as my experience goes there is little difference. Logs of wood are commonly applied to the leg, but they are not nearly heavy and severe enough; and if any good is to be done the weight must be of iron or lead. A common heater for a tea-urn, of about 4lb. weight, is about as good as anything, but it should not be put on until a lighter one has been tried for an hour or two, for if a horse is frightened by it he may do himself a serious injury. When, however, he is used to the wooden log, and has got over his first alarm, the iron weight may be buckled on, and will hit him hard enough to stop his frolics in any case. A broad strap should be buckled tightly round the leg, above the pastern, and the weight suspended from it, so as to clear the coronet, which will inflame to a mischievous extent if bruised. Sometimes a weight is required for each leg, if the horse kicks both stall-posts.

WEAVING is a restless habit of moving the head in a quick and peculiar way from side to side of the stall, just as the wild beast does in his den. It is only a symptom of a restless disposition, and few "weavers" are good feeders and workers in consequence. There is no cure for it, and yet it often annoys the adjoining horses from the noise made by the collar-reins.

PAWING is from a similar cause, and is evidenced by a constant working away of the litter with the fore-feet. The best remedy is a pair of fetters, which keep the two fore-legs close together, and prevent pawing with either. The fetters, or shackles, consist of two padded straps, large enough to encircle the small pastern-bone, and connected by a short chain of about 10 or 12 inches in length.

EATING the litter is easily prevented by a muzzle, which must be put on immediately after the hay is finished, and kept on through the night. A piece of rock-salt in the manger will, however, often entice the horse from the litter, and perhaps remove the morbid and craving appetite by its restorative powers.

An Inveterate Kicker is to be very carefully approached by all parties, and sometimes requires even more than ordinary caution, in which case a chain is run through a pulley in the stall-post, and from that to his head-stall, so that by pulling it his head may be pulled round towards the post, and by the same action his heels drawn from it, so as to allow the groom to go to his head, when he is safe from the heels. Most good grooms, however, are able to take care of themselves, and by constant practice they learn to keep the proper distance, either near enough to make the kick a mere push, or far enough to be out of reach.

Biting is managed in the same way as kicking; using the chain, however, to draw the head to the ring of the rack-chain, instead of to the stall-post. In dressing biters a muzzle should always be put on.

Crib-biting is generally a habit, though it may be also a disease; but it is so infectious that it may usually be considered of the former characters. It is remedied either by a manger of such a form as to prevent the teeth seizing it—that is, wide enough in the front edge, or by a neck-strap buckled on tightly, or by an open iron muzzle, which keeps the teeth off the edge of the manger, and is sometimes furnished with a concealed set of goads, so that when the horse presses down he pricks himself severely. There is no perfect cure for the vice or habit, and when a horse has contracted it he generally loses his extra fat, and becomes lean and starved-looking. Even the muzzle does not entirely remove these appearances, though with it the crib-biter keeps his good looks to a greater extent than without it.

Wind-Sucking is very similar to crib-biting, and is prevented in the same way, the only difference being that the same noise is not made, nor is the manger seized, but there is a quiet swallowing of wind, with the muzzle pressed against the manger, instead of the noisy one experienced in crib-biting. The concealed prongs are here of much greater use than in crib-biting, and are the only effectual remedy against the vice.

Sect. 9.—The Degree of Warmth necessary for the Stabled Horse.

A great outcry has been raised in this country against warm stables, and no doubt much good has been done by the agitation on the subject; but, like all reforms, it may be carried too far; and I am inclined to believe that in many cases it has been. Warmth of some kind is essential to the health of the well-bred horse; for, though the Welsh pony or the galloway may be fitted to contend against cold, the horse of eastern descent is certainly not qualified to do so. From a long experience, I am satisfied that a moderately warm stable, even with its attendant closeness, is better than a large and airy, but consequently cold, one; yet, at the same time, if artificial warmth can be given, the space and ventilation can scarcely be too free. But, *est modus in rebus*, every one must be ruled by the length of his purse; and if he cannot afford large and roomy stables with a stove kept constantly going, he will find that his horses will be far more healthy, if the stable is well cleaned and drained, and they are kept warm by shutting it up pretty closely in severe weather. In the summer the doors and windows may always be open, except in cold nights; but in severe winter weather a very slight access of fresh air can be admitted during that period of the twenty-four hours. During an experience of twenty years, with an average of three or four horses in the stable, I have not altogether had more than half a dozen cases of disease of any kind in my stable, over and above lameness incidental to road-work; and this with a great variety of horses of all classes and ages. Now, in general, I have had a small confined stable kept warm but clean, and with a pretty free ventilation, yet not more than the average of private stables; and the most healthy one I have ever had was the most confined and worst ventilated to all appearance, but what fresh air there was, entered at the heads of the horses; and I have made the same remark in other stables. Some large airy ones were notoriously unhealthy, while others close, dark, and confined were the reverse; and the conclusion I have arrived at is, that horses kept warm indoors, *if care is taken of them out*, are more healthy on the whole than those kept cool; and, as a consequence of their hardiness, as it is called, more exposed to the weather when out. If kept warm they must assuredly be taken care of, but in that case they are healthy enough; and consequently I arrive at the conclusion that it is not the warm stable, but the neglect out of it, which produces disease. If, therefore, horses are to be thus exposed, they had better be kept cool, as in hack livery stables; but if not, there is no harm in proper warmth when united with cleanliness and caution out of doors.

SECT. 10.—MANAGEMENT OF THE FEET.

This department of stable management is often sadly neglected by the groom, who is particular enough in every other respect; but if his master is only a judge of skin and condition, he is too apt to leave the feet to take care of themselves.

AN EXAMINATION OF THE SHOES should be carefully made every morning when the horse comes in from exercise; and if they are at all loose, or the clenches are too high, or the shoes are worn out, they should be renewed or removed at once.

EVERY NIGHT the feet should be well brushed out, and the picker run round the shoe; they should then be stopped with cow-dung and tar, in the proportion of 3 to 1, called "stopping," which ought always to be kept by the groom in a box for the purpose, called the stopping-box.

PART V.

DISEASES OF THE DOG AND HORSE.

BOOK I.—GENERAL PRINCIPLES OF PATHOLOGY.

CHAPTER I.
DEFINITION OF TERMS AND ARRANGEMENT OF DISEASES.

Sect. 1.—Definition of Terms.

By Pathology is to be understood the science which treats of *disease*, and describes the alterations which are produced by it, whether evidenced by Symptoms during life, or by Morbid Appearances after death. Disease, again, is a departure from that state of health in which all the functions are carried on in such a vigorous and natural manner that the allotted life of the individual is not likely to be shortened, except by accidental causes.

Symptomatology, or the science which treats of and describes symptoms, is the most valuable section of the healing art, and is purely the result of observation and of comparison, since no two sets of symptoms are exactly alike. When a series of symptoms are found always to occur in nearly the same order, and with nearly the same variations, a particular disease is said to exist, and a name is assigned to it by the physician or surgeon. The collection and classification of these diseases constitute the science of Nosology.

Morbid or Pathological Anatomy is to morbid appearances what Nosology is to Symptomatology; that is, it groups together and describes the various morbid appearances found on dissection, and connects their existence with the previous condition of the patient.

Medicine, whether in man or in the lower animals, embraces a consideration of the diseases (including their symptoms and morbid appearances) which affect internal organs.

Surgery, in like manner, treats of the symptoms and morbid appearances found in external diseases and in accidents, as well as in all those cases which require manual operations; but it is not always easy to separate the one class from the other, and in veterinary medicine it is not attempted. In practice upon man there is often this distinction made in theory, though it is seldom kept up strictly in practice.

The Phrase, Materia Medica, in ordinary *parlance*, includes the description, uses, and mode of action of all medicines, with their doses, and the best mode of prescribing and administering them; and in veterinary medicine a separate and distinct pharmacopœia is required for this purpose.

Sect 2.—Principal Diseased Conditions.

In the lower animals, although domesticated, the diseases are much less complicated than in the human subject, for various reasons; but still, taking into consideration the wide difference between the dog, horse, cow, and sheep, to say nothing of swine and poultry, the veterinary practitioner has a wide field for the exercise of his powers of observation. But in almost all the domestic animals, although the symptoms and treatment vary considerably, the following will be the chief diseases to which they are subject—viz.: first, febrile diseases, contagious and non-contagious; secondly, inflammatory diseases; thirdly, diseases accompanied with want of tone; fourthly, diseases resulting from over-feeding; fifthly specific diseases; and sixthly, accidents. In order, therefore, to understand their nature, a few remarks will be necessary upon fever, inflammation, want of tone, and over-feeding.

Sect 3.—Varieties of Fever.

By Fever, we understand a diseased condition of the system, in which all, or nearly all, the secretions and functions are diminished or deranged. The nervous system, the respiratory and circulating systems, the organs of nutrition and depuration, and even those of reproduction are all affected, and their actions to a certain extent suspended. And this is the case whether the fever is of an ephemoral kind, or whether it is of the most virulent typhoid nature.

The affection of the nervous system is shown by the langour and torpor, or sometimes by the unnatural excitement which exists. That of the respiration and circulation by the very rapid or very slow breath, and similar affection of the heart. The disorder of the organs of nutrition is evidenced by the loss of appetite, and the extraordinary degree of emaciation which rapidly shows itself; and that of the organs of depuration by the state of the fæces, urine, and prespiration.

FEVERS are usually divided into *idiopathic*, or those occuring from an agent acting on the blood or nervous system; and *symptomatic*, or those resulting from some local affection or accident. The former are again divided into *contagious* and *non-contagious*, and also into *continued* and *intermitting* or *remittent;* but it will be sufficient for our purpose to examine into fever in the following forms—first, simple ephemeral fever; secondly, simple epidemic fever, or influenza; thirdly, typhus fever; fourthly, rheumatic fever; fifthly, small-pox; sixthly, symptomatic fever.

SECT. 4.—INFLAMMATION.

INFLAMMATION is a condition of a part characterized by increased *heat*, *redness*, *pain*, and *swelling*, when fully developed; though there may be inflammation without the existence of all these symptoms in a state perceptible to the senses. There are two kinds of inflammation—first, the *active* inflammation, in which the blood is driven with increased force through the arteries supplying the part, which throb most perceptibly to the touch; and secondly, the *atonic* species of inflammation, in which there appears to be a tendency to loss of power in the capillaries, by which the blood is retarded rather than any increased action in any part. Closely allied to this atonic inflammation is *congestion*, which, however, seems to be more confined to the veins than to the arteries; and is very sudden in its attack, and as rapid in its departure. Very little is known of the exact nature of these processes, but the above is the sum and substance of what are supposed to be the various actions going on in these three states of the system. Inflammation ends—first, by resolution, or cure, leaving no sign; secondly, by the formation of matter, or *pus*, as it is called; thirdly, by the pouring out of lymph; fourthly, by the pouring out of serum; and fifthly, by the pouring out of mucus.

INFLAMMATION also is distinguished according to the structure of the body which it attacks. Thus, there is an inflammation peculiar to serous membranes, another confined to mucous membranes, another to the actual substance (*parenchyma*) of organs, a fourth to the skin, a fifth to fibrous parts (*rheumatic*). But in many cases inflammation extends to two adjacent tissues at the same time; as in the case of pneumonia and bronchitis, which generally run one into the other.

SECT. 5.—DISEASES ARISING FROM WANT OF TONE, OR FROM OVER-FEEDING.

THESE DISEASES are generally in animals the result of mismanagement, either from over-crowding, or insufficient, or improper feeding; or frequently from excess of provender in proportion to the work. When animals are crowded together, especially if they are not kept very clean, they rapidly become unhealthy, and their blood is completely poisoned by the noxious emanations produced by their close approximation. Nature seems to put a limit upon the population of the earth, either by man or the lower animals, all which are speedily cut off by peculiar epidemics whenever they are accumulated in great numbers; but this is more especially the case in the lower animals, in which over-crowding is much more rapidly manifest in its effects, than in man. The partridge, the grouse, the sheep, and the hare, soon die off if they are collected in too great numbers, even though, apparently, proper food is presented to them. But when animals are confined in close apartments, as is the case with the dog and horse, and in large numbers, the deaths frequently become so numerous as to alarm the proprietor, and when almost too late proper precautions are often taken. I have seen on many occasions kennels in which 20 or 30 high-bred greyhounds had been collected in one large apartment, and never cleaned out for months at a time; and yet they were expected to be healthy, and large sums invested upon their success in public coursing. If these animals are to be kept in health, too great an attention can scarcely be paid to separation into small parties, and to cleanliness. Hence, small kennels, and stables divided into a small number of stalls, will always be desirable; and if these are kept clean, and feeding and exercise carried out upon proper principles, the diseases to which I am now referring will seldom make their appearance.

PART V.

DISEASES OF THE DOG AND HORSE.

BOOK II.—ORDINARY DRUGS USED FOR THE DOG AND HORSE, AND THEIR MODE OF ADMINISTRATION.

CHAPTER I.

THE ACTION OF MEDICINES, AND THE FORMS IN WHICH THEY ARE GENERALLY PRESCRIBED.

SECT. 1.—ALTERATIVES.

ALTERATIVES are intended to produce a fresh and healthy action, instead of the previous disordered function. The precise mode of action is not well understood, and it is only by the results that the utility of these medicines is recognised.

ALTERATIVES FOR DOGS:—

(1) Æthiops mineral, 2 to 5 grains.
Powdered ginger, ½ to 1 grain.
Powdered rhubarb, 1 to 3 grains.
Mix, and form into a pill with syrup, to be given every evening.

(2) Plummer's pill, 2 to 5 grains.
Extract of hemlock, 2 to 3 grains.
Mix, and give every night.

(3) Stinking hellebore, 5 to 8 grains.
Powdered rhubarb, 2 to 4 grains.
Mix, and form into a pill, to be given every night.

ALTERATIVES FOR HORSES:—

(4) IN DISORDERED STATES OF THE SKIN.
Emetic tartar, 5 ounces.
Powdered ginger, 3 ounces.
Opium, 1 ounce.
Syrup enough to form 16 balls; one to be given every night.

(5) SIMPLY COOLING.
Barbadoes aloes, 1 ounce.
Castile soap, 1½ ounce.
Ginger, ½ ounce.
Syrup enough to form 6 balls; one to be given every morning.

(6) IN STRANGLES.
Barbadoes aloes, 1 oz.
Emetic tartar, 2 drachms.
Castile soap, 2 drachms. Mix.

(7) ALTERATIVE BALL FOR GENERAL USE.
Black sulphuret of antimony, 2 to 4 drachms.
Sulphur, 2 drachms.
Nitre, 2 drachms.
Linseed meal and water enough to form a ball.

(8) FOR GENERALLY DEFECTIVE SECRETIONS.
Flowers of sulphur, 6 ounces.
Emetic tartar, 5 to 8 drachms.
Corrosive sublimate, 10 grains.
Linseed meal mixed with hot water, enough to form six balls, one of which may be given two or three times a week.

(9) IN DEBILITY OF STOMACH.
Calomel, 1 scruple.
Aloes, 1 drachm.
Carscarilla,
Gentian, and
Ginger, of each in powder, 1 drachm.
Castile soap, 3 drachms.
Syrup enough to make a ball, which may be given twice a week, or every other night.

SECT. 2.—ANODYNES.

ANODYNE MEDICINES are given either to soothe the general nervous system, or to stop diarrhœa; or sometimes to relieve spasm, as in colic or tetanus. Opium is the chief anodyne used in veterinary medicine, and it may be employed in very large doses.

ANODYNE PRESCRIPTIONS FOR DOGS:

(1) FOR SLIGHT PURGING.
Prepared chalk, 2 drachms.
Aromatic confection, 1 drachm.
Tincture of opium, 5 to 8 drachms.
Rice-water, 7 ounces.
Mix; dose, two tablespoonfuls after every loose motion.

(2) FOR LONG-CONTINUED PURGING.
Diluted sulphuric acid, 8 drachms.
Tincture of opium, 2 drachms.
Compound tincture of bark, 1 ounce.
Water, 6½ ounces.
Mix, two tablespoonfuls every four hours.

(3) Castor-oil, 2 ounces.
Tincture of opium, 1 ounce.
Mix by shaking; a tablespoonful night and morning while the bowels are loose.

(4) Powdered opium, ½ to 2 grains.
Prepared chalk, 5 to 10 grains.
Catechu, 5 grains.
Powdered ginger, and
Powdered caraways, of each 1 to 3 grs.
Mix, and form it into a pill with syrup, and give every three hours.

ANODYNE PREPARATIONS FOR THE HORSE:—

(5) IN COLIC.
Powdered opium, ½ to 2 drachms.
Castile soap, and
Camphor, of each 2 drachms.
Ginger, 1½ drachm.
Make into a ball with liquorice powder and treacle, and give every hour while the pain lasts. It should be kept in a bottle or bladder.

(6) ANODYNE BALL (ordinary).
Opium, ½ to 1 drachm.
Castile soap, 2 to 4 drachms.
Ginger, 1 to 2 drachms.
Powdered aniseed, ½ to 1 ounce.
Oil of caraway seeds, ½ drachm.
Syrup enough to form a ball, to be dissolved in a half pint of warm ale, and given as a drench.

(7) ANODYNE DRENCH IN SUPERPURGATION, OR ORDINARY DIARRHŒA.
Gum arabic, 2 ounces.
Boiling water, 1 pint.
Dissolve, and then add
Oil of peppermint, 25 drops.
Tincture of opium, ½ ounce.
Mix, and give night and morning, if necessary.

(8) IN CHRONIC DIARRHŒA.
Powdered chalk and gum arabic, of each 1 ounce.
Tincture of opium, ½ ounce.
Peppermint water, 10 ounces.
Mix, and give night and morning.

SECT. 3.—ANTISPASMODICS.

ANTISPASMODICS, as their name implies, are medicines which are intended to counteract excessive muscular action, called *spasm*, or, in the limbs, *cramp*. This deranged condition depends upon a variety of causes, which are generally of an irritating nature; and its successful treatment will often depend upon the employment of remedies calculated to remove the cause, rather than directly to relieve the effect. It therefore follows that, in many cases, the medicines most successful in removing spasm will be derived from widely separated divisions of the *materia medica*, such as aperients, anodynes, alteratives, stimulants, and tonics. It is useless to attempt to give many formulas for their exhibition; but there are one or two medicines which exercise a peculiar control over spasm, and I shall give them without attempting to analyse their mode of operation.

ANTISPASMODICS FOR THE DOG:—

(1) GENERALLY ANTISPASMODIC.
Tincture of opium, and
Sulphuric æther, of each, ½ to 1 dr.
Camphor mixture, 1 ounce.
Mix, and give every two hours till the spasm leaves.

(2) ANTISPASMODIC INJECTION.
Laudanum.
Sulphuric æther, and
Spirit of turpentine, of each, 1 to 2 dr.
Gruel, 3 to 6 ounces. Mix.

ANTISPASMODICS FOR THE HORSE:—

(3) FOR COLIC.
Spirits of turpentine, 3 ounces.
Tincture of opium, 1 ounce.
Mix with a pint of warm ale, and give as a drench.

(4) Spirits of turpentine, 3½ ounces.
Tincture of opium, 1½ ounce.
Barbadoes aloes, 1 ounce.
Powder the aloes, and dissolve in warm water; then add the other ingredients, and give as a drench.

(5) CLYSTER IN COLIC.
Spirits of turpentine, 6 ounces.
Aloes, 2 drachms.
Dissolve in 3 quarts of warm water, and stir the turpentine well into it.

(6) ANTISPASMODIC DRENCH.
Gin, 4 to 6 ounces.
Tincture of capsicum, 2 drachms.
Tincture of opium, 3 drachms.
Warm water, 1½ pint.
Mix, and give as a drench, *when there is no inflammation.*

SECT. 4.—APERIENTS.

APERIENTS, or purges, are those medicines which quicken or increase the evacua-

tions from the bowels, varying, however, a good deal in their mode of operation. Some act merely by exciting the muscular coat of the bowels to contract; others cause an immense watery discharge, which, as it were, washes out the bowels; whilst a third set combine the action of the two. The various purges also act upon different parts of the canal, some stimulating the small intestines, whilst others pass through them without affecting them, and only act upon the large bowels; and others, again, act upon the whole canal. There is a third point of difference in purges, depending upon their influencing the liver in addition, which mercurial purgatives certainly do, as well as rhubarb and some others, and which effect is partly due to their absorption into the circulation, so that they may be made to act, by injecting into the veins, as strongly as by actual swallowing, and their subsequent passage into the bowels. Purgatives are likewise classed, according to the *degree* of their effect, into laxatives acting mildly, and drastic purges acting very severely.

APERIENTS FOR THE DOG:—

(1) A GENTLE APERIENT BOLUS.

Jalap in powder, 8 grains.
Barbadoes aloes, 15 grains.
Ginger, 2 grains.
Castile soap, 10 grains,

Mix with syrup, and form a bolus, or, for small dogs, 2 or 3 boluses.

(2) STRONG APERIENT BOLUS.

Calomel, 4 grains.
Jalap, 14 to 20 grains.

Linseed meal and water, enough to make one or two boluses, according to size.

(3) A GOOD APERIENT BOLUS.

Blue pill, ½ scruple.
Comp. ext. of colocynth, 1 scruple.
Powdered rhubarb, 5 grains.
Oil of aniseed, 2 drops.

Mix, and give to a large dog, or divide into two or three for medium-sized or smaller ones.

(4) CASTOR OIL MIXTURE.

Castor oil, ½ pint.
Tincture of opium, ½ ounce.
Oil of aniseed, 1 drachm.
Olive oil, 2 ounces.

Mix, and give one, two, or three tablespoonfuls, according to the size of the dog.

(5) DRASTIC PURGATIVE, PRODUCING WATERY EVACUATIONS.

Jalap, 10 grains.
Epsom salts, 2 drachms.
Subcarbonate of soda, 10 grains.
Infusion of senna, 1 ounce.
Tincture of senna, 2 drachms.
Tincture of ginger, 15 grains.

Mix, and give the whole, or one-half, or one-third, as the size may allow.

(6) THE STRONGEST PURGATIVE, BUT OFTEN REJECTED BY THE STOMACH.

Croton oil ½ to 1½ drop.
Powdered opium, 1 to 3 grains.
Linseed meal, 10 grains.

Mix the meal with boiling water, and then add the oil and opium.

APERIENTS FOR THE HORSE, commonly called PHYSIC:—

(7) ORDINARY PHYSIC BALLS.

Barbadoes aloes, 3 to 8 drachms.
Hard soap, 4 drachms.
Ginger, 1 drachm.

Dissolve in as small a quantity of boiling water as will suffice; then slowly evaporate to the proper consistence, by which means griping is avoided.

(8) A WARMER PHYSIC BALL.

Barbadoes aloes, 3 to 8 drachms.
Carbonate of soda, ½ drachm.
Aromatic powder, 1 drachm.
Oil of caraway, 12 drops.

Dissolve as above, and then add the oil.

(9) GENTLY LAXATIVE BALL.

Barbadoes aloes, 3 to 5 drachms.
Rhubarb powder, 1 to 2 drachms.
Ginger, 2 drachms.
Oil of caraway, 15 drops.

Mix, and form into a ball, as in No. 7.

(10) STOMACHIC LAXATIVE BALLS, FOR WASHY HORSES.

Barbadoes aloes, 3 drachms.
Rhubarb, 2 drachms.
Ginger, and
Cascarilla powder, of each 1 drachm.
Oil of caraway, 15 drops.
Carbonate of soda, 1½ drachm.

Dissolve the aloes as in No. 7, and then add the other ingredients.

(11) PURGING BALLS, WITH CALOMEL.

Barbadoes aloes, 3 to 6 drachms.
Calomel, ½ to 1 drachm.
Rhubarb, 1 to 2 drachms.
Ginger, ½ to 1 drachm.
Castile soap, 2 drachms.

Mix as in No. 7.

(12) LAXATIVE DRENCH.

Barbadoes aloes, 3 to 4 drachms.
Canella alba, 1 to 2 drachms.
Salt of Tartar, 1 drachm.
Mint water, 8 ounces. Mix.

(13) ANOTHER LAXATIVE DRENCH.
Castor oil, 3 to 6 ounces
Barbadoes aloes, 3 to 5 drachms.
Carbonate of soda, 2 drachms.
Mint water, 8 ounces.
Mix, by dissolving the aloes in the mint water, by the aid of heat, and then adding the other ingredients.

(14) A MILD OPENING DRENCH.
Castor oil, 4 ounces.
Epsom salts, 3 to 5 ounces.
Gruel, 2 pints. Mix.

(15) A VERY MILD LAXATIVE.
Castor oil, and
Linseed oil, 4 ounces of each.
Warm water, or gruel, 1 pint. Mix.

(16) USED IN THE STAGGERS.
Barbadoes aloes, 6 drachms.
Common salt, 6 ounces.
Flour of mustard, 1 ounce.
Water, 2 pints. Mix.

A GENTLY COOLING DRENCH IN SLIGHT
(17) ATTACKS OF COLD.
Epsom salts, 6 to 8 ounces.
Whey, 2 pints. Mix.

(18) PURGATIVE CLYSTER.
Common salt, 4 to 8 ounces.
Warm water, 8 to 16 pints.

SECT. 5.—ASTRINGENTS.

ASTRINGENTS are supposed to produce contraction in all living animal tissues with which they come in contact, whether in the interior or exterior of the body; and whether immediately applied or by absorption into the circulation. But great doubt exists as to the exact mode in which they act; and, as in many other cases, we are obliged to content ourselves with their effects, and to prescribe them empirically. They are divided into astringents administered by the mouth, and those applied locally to external ulcerated or wounded surfaces.

ASTRINGENT BOLUSES FOR THE DOG useful in
(1) DIABETES OR HÆMORRHAGE.
Powdered opium, 2 to 3 grains.
Gallic acid, 4 to 6 grains.
Alum, 5 to 10 grains.
Powdered bark, 10 grains.
Linseed meal, enough to form a bolus, to be given to a large dog (or divided for a small one) two or three times a day.

(2) Nitrate of silver, ½ grain.
Crumb of bread, enough to make a small pill, to be given twice a day, or divided according to the size of the dog.

(3) ASTRINGENT WASH FOR THE EYES.
Sulphate of zinc, 5 to 8 grains.
Water, 2 ounces. Mix.

(4) Goulard extract, 1 drachm.
Water, 1 ounce. Mix.

(5) Nitrate of silver, 2 to 8 grains.
Water, 1 ounce. Mix.

(6) WASH FOR THE PENIS.
Sulphate of zinc, 6 to 10 grains.
Water, 1 ounce. Mix.

(7) Chloride of zinc, ½ to 1½ grain.
Water, 1 ounce. Mix.

(8) ASTRINGENT OINTMENT FOR PILES.
Gallic acid, 10 grains.
Goulard extract, 15 drops.
Lard, 1 ounce. Mix.

ASTRINGENT REMEDIES FOR THE HORSE:
(9) FOR BLOODY URINE.
Powdered catechu, ½ ounce.
Alum, ½ ounce.
Cascarilla bark in powder, 1 to 2 dr.
Liquorice powder and treacle, enough to form a ball, to be given twice a-day.

(10) FOR DIABETES.
Opium, ½ drachm.
Ginger powdered, 2 drachms.
Oak bark powdered, 1 ounce.
Alum, as much as the tea will dissolve.
Camomile tea, 1 pint.
Mix for a drench.

EXTERNAL ASTRINGENT POWDER FOR ULCERATED SURFACES.
(11) Powdered alum, 4 ounces.
Armenian bole, 1 ounce.

(12) White vitriol, 4 ounces.
Oxide of zinc, 1 ounce. Mix.

(13) ASTRINGENT LOTION.
Goulard extract, 2 to 3 drachms.
Water, ½ pint.

(14) Sulphate of copper, 1 to 2 drachms.
Water, ½ pint. Mix.

ASTRINGENT OINTMENT FOR SORE
(15) HEELS.
Superacetate of lead, 1 drachm.
Lard, 1 ounce. Mix.

(16) ANOTHER FOR THE SAME.
Nitrate of silver powdered, ½ drachm.
Goulard extract, 1 drachm.
Lard, 1 ounce. Mix.

SECT. 6.—BLISTERS.

BLISTERS are applications which inflame the skin, and cause watery bladders to form upon it; they consist of two kinds, one for the sake of counter-irritation, by which the

original disease is lessened, in consequence of the establishment of this irritation at a short distance from it. The other, commonly called "sweating" in veterinary surgery, by which a discharge is obtained from the vessels of the part itself, which are in that way relieved and unloaded; there is also a subsequent process of absorption in consequence of the peculiar stimulus applied.

BLISTERS FOR DOGS OR HORSES:—

(1) MILD BLISTER OINTMENT (COUNTER IRRITANT).

Hog's lard, 4 ounces.
Venice turpentine, 1 ounce.
Powdered cantharides, 6 drachms.
Mix, and spread.

(2) STRONGER BLISTER OINTMENT (COUNTER IRRITANT).

Spirit of turpentine, 1 ounce.
Sulphuric acid, by measure, 2 drachms.
Mix carefully in an open place, and add
Hog's lard, 4 ounces.
Powdered cantharides, 1 ounce.
Mix, and spread.

(3) VERY STRONG BLISTER (COUNTER IRRITANT).

Strong mercurial ointment, 4 ounces.
Oil of origanum, ½ ounce.
Finely-powdered euphorbium, 3 dr.
Powdered cantharides, ½ ounce.
Mix, and spread.

(4) RAPIDLY ACTING BLISTER (COUNTER IRRITANT).

Best flour of mustard, 8 ounces, made into a paste with water.
Add oil of turpentine, 2 ounces.
Strong liquor of ammonia, 1 ounce.
This is to be well rubbed into the chest, belly, or back, in cases of acute inflammation.

(5) SWEATING BLISTER.

Strong mercurial ointment, 2 ounces.
Oil of origanum, 2 drachms.
Corrosive sublimate, 2 drachms.
Cantharides powdered, 3 drachms.
Mix, and rub in with the hand.

(6) STRONG SWEATING BLISTER, FOR SPLENTS, RING-BONES, SPAVINS, &c.

Biniodide of mercury, 1 to 1½ drachm.
Lard, 1 ounce.
To be well rubbed in the legs after cutting the hair short; and followed by the daily use of arnica, in the shape of a wash, as follows, which is to be painted on with a brush:—
Tincture of arnica, 1 ounce.
Water, 12 to 15 ounces. Mix.

(7) MAJOR'S BRITISH REMEDY, which is supposed to be composed chiefly of sulphuric acid, but which sweats down bony matter very rapidly, though not without pain, and is sometimes followed by a blemish.

SECT. 7.—CAUSTICS.

CAUSTICS are substances which burn away the living tissues of the body, by the decomposition of their elements. They are of two kinds—viz., first, the actual cautery, consisting in the application of the burning iron, and called firing; and, secondly, the potential cautery, by means of the powers of mineral caustics, such as potash, lunar-caustic, &c.

FIRING is used extensively upon horses for inflammation of the legs, but it is seldom employed upon the dog, who does not suffer in the same way, and to the same extent. A set of firing-irons is heated to a great heat, and one at a time is lightly applied across the limb, or in lines up and down, according to the nature of the disease. This excites a very great amount of swelling and inflammation, by which the mischief is often abated, and is followed also by a contraction of the skin, which appears to act as a bandage in the weak state of the vessels of the legs which often occurs. The firing is generally followed by blistering, in order to keep up the inflammation, and at least three months must be consumed before the fired horse, if thoroughly operated on, will be fit for work.

STRONG SOLID CAUSTICS are as follows:

(1) FUSED POTASS, difficult to manage, because it runs about in all directions, and little used in veterinary medicine.

(2) LUNAR-CAUSTIC, or nitrate of silver, very valuable to the veterinary surgeon, and constantly used to apply to profuse granulations.

(3) SULPHATE OF COPPER, almost equally useful, but not so strong as lunar-caustic; it may be well rubbed in to all high granulations, as in broken knees, and similar growths.

(4) CORROSIVE SUBLIMATE in powder, which acts most energetically upon warty growths, but should be used with great care, and discretion. It may safely be applied to small surfaces, but not without a regular practitioner to large ones. It should be washed off after remaining on a few minutes.

(5) YELLOW ORPIMENT, not so strong as the corrosive sublimate, and may be used with more freedom. It will generally re-

move warty growths, by picking off their heads and rubbing it in.

STRONG LIQUID CAUSTICS:—

(6) Sulphuric acid, or nitric acid, may be used either in full strength or diluted with an equal quantity of water; but it must be used with great caution, as it destroys the skin rapidly.

(7) IN CANKER OF THE FOOT.

Quicksilver, 1 ounce.
Nitric acid, 2 ounces.

Mix in an earthen vessel, and when cold put into a wide glass bottle, and cork it. It may be mixed with lard, in the proportion of 1 to 8.

(8) A similar application, which may be used alternately with the last—

Copper filings, ½ ounce.
Nitric acid, 1 ounce.

Mix, and use in the same way.

(9) Muriate of antimony called butter of antimony; a strong but rather unmanageable caustic, and used either by itself or mixed with more or less water.

MILD SOLID CAUSTICS:—

(10) Verdigris, either in powder or mixed with lard as an ointment, in the proportion of 1 to 8.

(11) Red precipitate, do., do.

(12) Burnt alum, used dry.

(13) Powdered white sugar.

MILD LIQUID CAUSTICS:—

(14) Solution of nitrate of silver, 5 to 15 grains, to the ounce of distilled water.

(15) Solution of blue vitriol, of about double the above strength.

(16) Chloride of zinc, 8 grains, to the ounce of water.

SECT. 8.—CHARGES.

CHARGES are adhesive plasters which are spread while hot on the legs, and at once covered with short tow, so as to form a strong and unyielding support while the horse is at grass.

(1) ORDINARY CHARGE.

Burgundy pitch, 4 ounces.
Barbadoes tar, 6 ounces.
Beeswax, 2 ounces.
Red lead, 4 ounces.

The three first are to be melted together, and afterwards the lead is to be added. The mixture is to be kept constantly stirred until sufficiently cold to be applied. If too stiff (which will depend upon the weather), it may be softened by the addition of a little lard or oil.

(2) ARNICA CHARGE.

Canada balsam, 2 ounces.
Powdered arnica leaves, ½ ounce.

The balsam to be melted and worked up with the leaves, adding spirits of turpentine if necessary. When thoroughly mixed, to be well rubbed into the whole leg in a thin layer, and to be covered over with the Charge No. 1, which will set on its outside and act as a bandage, while the arnica acts as a restorative to the weakened vessels. This is an excellent application.

SECT. 9.—CORDIALS.

CORDIALS are medicines which act as warm temporary stimulants, augmenting the strength and spirits when depressed, and often relieving an animal from the ill-effects of over-exertion. They act much in the same way on the horse and dog, but require to be given in different doses.

CORDIALS FOR THE DOG are as follows:—

(1) CORDIAL BALLS.

Powdered caraway seeds, ½ to 1½ dr.
Ginger, 20 to 40 grains.
Oil of cloves, 3 to 8 drops. Mix.

(2) Greyhound cordial balls, see TRAINING OF THE GREYHOUND.

(3) CORDIAL DRENCH.

Tincture of cardamoms, ½ to 1 drachm.
Sal volatile, 15 to 30 drops.
Infusion of gentian, ½ to 1 drachm.
Camphor mixture, 1 ounce. Mix.

HORSE CORDIALS:—

(1) CORDIAL BALLS.

Powdered caraway seeds, 6 drachms.
Ginger, 2 drachms.
Oil of cloves, 20 drops.
Treacle, enough to make into a ball.

(2) Powdered aniseed, 6 drachms.
Powdered cardamoms, 2 drachms.
Powdered cassia, 1 drachm.
Oil of caraways, 20 drops.

Mix with treacle into a ball.

(3) CORDIAL DRENCH.

A quart of good ale warmed, and with plenty of grated ginger.

(4) CORDIAL AND EXPECTORANT.

Powdered aniseed, ½ ounce.
Powdered squill, 1 drachm.
Powdered myrrh, 1½ drachm.

Balsam of Peru, enough to form a ball.

(5) Liquorice powder, ½ ounce.
Gum ammoniacum, 3 drachms.
Balsam of Tolu, 1½ drachm.
Powdered squill, 1 drachm.
Linseed meal and boiling water, enough to form into a mass.

Sect. 10.—Demulcents.

Demulcents are medicines which are used in irritations of the bowels, kidneys, and bladder; and they are equally useful and act in the same way on the dog and horse; the former, of course, requiring much smaller quantities than the latter.

(1) Demulcent Drench.
Gum arabic, ½ ounce.
Water, 1 pint.
The whole to be given to the horse or half a teacupful to a moderate-sized dog.

(2) Linseed, 4 ounces.
Water, 1 quart.
Simmer till a strong and thick decoction is obtained, and give as above.

(3) Marshmallow Drench.
Marshmallows, a double handful.
Water, 1 quart.
Simmer, as in No. 2, and use in the same way.

Sect. 11.—Diaphoretics.

Diaphoretics are medicines which increase the insensible perspiration; but, as in the dog the skin is not capable of perceptible action of this kind, their use is confined to the horse.

(1) In Hide-Bound.
Emetic tartar, 1½ drachm.
Camphor, ½ drachm.
Ginger, 2 drachms.
Opium, ½ drachm.
Oil of caraway, 15 drops.
Linseed meal and boiling water, to form a ball, which is to be given twice or thrice a-week.

(2) In Hide-Bound (but not so efficacious).
Antimonial powder, 2 drachms.
Ginger, 1 drachm.
Powdered caraways, 6 drachms.
Oil of aniseed, 20 drops.
Mix as above.

These remedies require exercise in clothing to bring out their effects, after which the horse should be whisped till quite dry.

Sect. 12.—Digestives.

Digestives are applications which promote suppuration, and the healing of wounds or ulcers. They are equally useful in the dog and horse.

(1) Digestive Ointment.
Red precipitate, 2 ounces.
Venice turpentine, 3 ounces.
Beeswax, 1 ounce.
Hog's lard, 4 ounces.
Melt the last three ingredients over a slow fire, and when nearly cold, stir in the powder.

Sect. 13.—Diuretics.

Diuretics are medicines which promote the secretion and discharge of urine, the effect being produced in a different manner by different medicines; some acting directly upon the kidneys by sympathy with the stomach, while others are taken up by the blood-vessels, and in their elimination from the blood cause an extra secretion of the urine. In either case their effect is to diminish the watery part of the blood, and thus promote the absorption of fluid effused into any of the cavities, or into the cellular membrane, in the various forms of dropsy.

(1) Diuretic Bolus for the Dog.
Nitre, 6 grains.
Digitalis, 1 grain.
Ginger, 4 grains.
Linseed meal and water to form a bolus, which is to be given night and morning, or half to a small dog.

(2) Diuretic and Alterative.
Iodide of potassium, 3 grains.
Nitre, 4 grains.
Digitalis, ⅓ grain.
Extract of gentian, 5 grains.
Mix, and give twice a-day, or half to a small dog.

(1) Stimulating Diuretic Ball for the Horse.
Powdered resin,
Sal prunelle,
Castile soap, of each 3 drachms.
Oil of juniper, 1 drachm. Mix.

(2) A more Cooling Diuretic Ball.
Powdered nitre, ½ to 1 ounce.
Camphor, and
Oil of juniper, of each 1 drachm.
Soap, 3 drachms.
Mix, adding linseed meal enough to form a ball.

(3) Diuretic Powder for a Mash.
Nitre, and
Resin, of each ½ to ¾ ounce. Mix.

(4) Another More Active Powder.
Nitre, 6 drachms.
Camphor, 1½ drachm. Mix.

Sect. 14.—Embrocations.

Embrocations or Liniments, are stimulating or sedative external applications, intended to reduce the pain and inflammation of internal parts when rubbed into the skin with the hand.

(1) Mustard Embrocation.

Best flour of mustard, 6 ounces.
Liquor of ammonia, 1½ ounce.
Oil of turpentine, 1½ ounce.
Mix with sufficient water to form a thin paste.

(2) Stimulating Embrocation.

Camphor, ½ ounce.
Oil of turpentine, and
Spirit of wine, of each 1½ ounce. Mix.

(3) Sweating Embrocation for Wind-galls, &c.

Strong mercurial ointment, 2 ounces.
Camphor, ½ ounce.
Oil of rosemary, 2 drachms.
Oil of turpentine, 1 ounce. Mix.

(4) Another, but Stronger.

Strong mercurial ointment, 2 ounces.
Oil of bay, 1 ounce.
Oil of origanum, ½ ounce.
Powdered cantharides, ½ ounce. Mix.

(5) A Most Active Sweating Embrocation.

Biniodide of mercury, ½ to 1 drachm.
Powdered arnica leaves, 1 drachm.
Soap liniment, 2 ounces. Mix.

(6) Major's Synovitic Lotion appears to act with great advantage in stale legs, and in those tremulous conditions of the muscles of the fore-arm which are the result of hard work.

Sect. 15.—Emulsions.

Emulsions are very useful in the chronic cough of the horse; but are not successful with the dog.

(1) Simple Emulsion.

Linseed oil, 2 ounces.
Honey, 3 ounces.
Soft water, 1 pint.
Subcarbonate of potass, 1 drachm.

Dissolve the honey and potass in the water; then add the linseed oil by degrees in a large mortar, when it should assume a milky appearance. It may be given night and morning.

(2) Another More Active Emulsion.

Simple emulsion, No. 1, 8 ounces.
Camphor, 1 drachm.
Opium in powder, ½ drachm.
Oil of aniseed, 30 drops.

Rub the three last ingredients together in a mortar with some white sugar; then add the emulsion by degrees.

Sect. 16.—Emetics.

Emetics are not used in horse medicines, but are sometimes required for the dog, though not so often as is commonly supposed. Vomiting is a natural process in that animal, and seldom wants provoking; indeed, if emetics are often had recourse to, his stomach becomes so irritable that neither medicine nor food will remain on it. Hence, their administration should be carefully kept within the bounds of absolute necessity.

(1) Emetic to be Given to the Dog.

Tartar emetic, ½ to 1 grain.
Powdered ipecacuanha, 4 to 5 grains.
Mix, and dissolve in a little water, to be given as a drench; and to be followed by half a pint of lukewarm water in a quarter of an hour.

Common Salt Emetic.

(2) A teaspoonful of salt and half this quantity of mustard are to be dissolved in half a pint of warm water, and given as a drench.

Sect. 17.—Expectorants.

Expectorants excite or promote discharge of mucus from the lining membrane of the bronchial tubes, thereby relieving inflammation and allaying cough. They are equally useful in Dog and Horse.

Expectorants for the Dog:—

(1) Ipecacuanha powder, 1 to 1½ grain.
Powdered rhubarb, 1 to 3 grains.
Compound squill pill, 1 to 2 grains.
Powdered opium, ½ to 1 grain.
Linseed meal and water, enough to make a bolus, to be given night and morning.

(2) Ipecacuanha powder, and
Powdered opium, of each a grain.
Confection enough to make a pill, to be given every six hours.

(3) An Expectorant Mixture for Chronic Cough in the Dog.

Friar's balsam, 10 to 15 drops.
Syrup of poppies, 1 drachm.
Diluted sulphuric acid, 5 to 10 drops.
Mucilage, ½ ounce.
Water, ½ ounce.
Mix and give two or three times a-day.

(4) AN EXPECTORANT IN RECENT COUGH.
Tincture of lobelia, 10 to 15 drops.
Almond emulsion, 1 ounce.
Extract of conium, 2 to 3 grains.
Ipecacuanha wine, 5 to 10 drops.
Mix, and give two or three times a-day.

EXPECTORANT BALL FOR THE HORSE:—

(5) IN ORDINARY COUGH WITHOUT INFLAMMATION.
Gum ammoniacum, ½ ounce.
Powdered squill, 1 drachm.
Castile soap, 2 drachms.
Honey enough to form a ball.

(6) IN OLD STANDING COUGH (STOMACH).
Assafœtida, 3 drachms.
Galbanum, 1 drachm.
Carbonate of ammonia, ½ drachm.
Ginger, 1½ drachm.
Honey enough to form a ball.

(7) A STRONG EXPECTORANT BALL.
Emetic tartar, ½ drachm.
Calomel 15 grains.
Digitalis, ½ drachm.
Powdered squills, ½ drachm.
Linseed meal and water enough to form a ball, which is not to be repeated without great care.

SECT. 18.—FEBRIFUGES.

FEVER MEDICINES are given to allay fever, which they do by increasing the secretions of urine and sweat, and also by reducing the action of the heart.

FEBRIFUGES FOR THE DOG:—

(1) Calomel, 1 to 3 grains.
Digitalis, ½ grain.
Nitre, 3 to 5 grains.
Confection to form a pill, to be given every night.

(2) Nitre, 3 to 5 grains.
Tartar emetic, 1-6th grain.
Confection to form a pill, to be given night and morning.

(3) FEVER MIXTURE FOR THE DOG.
Nitre, 1 drachm.
Sweet spirits of nitre, 3 drachms.
Mindererus spirit, 1 ounce.
Camphor mixture, 6½ ounces.
Mix, and give two tablespoonfuls every six hours.

FEVER MEDICINES FOR THE HORSE:—

(4) FEVER BALL.
Nitre, 4 drachms.
Camphor, 1½ drachm.
Calomel and opium, of each 1 scruple.
Linseed meal and water enough to form a ball.

(5) ANOTHER FEVER BALL.
Emetic tartar, 1½ to 2 drachms.
Compound powder of tragacanth, 2 dr.
Linseed meal as above.

(6) ANOTHER.
Nitre, 1 ounce.
Camphor, 2 drachms.
Mix as above.

(7) COOLING MASH.
Nitre, 1 oz., may be given in a bran mash.

(8) COOLING DRENCH.
Nitre, 1 ounce.
Sweet spirits of nitre, 2 ounces.
Tincture of digitalis, 2 drachms.
Whey, 1 pint.

SECT. 19.—CLYSTERS.

CLYSTERS are intended either to relieve obstruction or spasm of the bowels, and are of great use both in the dog and horse.

FOR THE DOG, clysters should be simply a pint or two of warm water, in which soap has been dissolved, or the following:—

(1) TURPENTINE CLYSTER IN COLIC.
Spirit of turpentine, ½ ounce.
Castor oil, 1 ounce.
Tincture of opium, 2 to 3 drachms.
Gruel, 1 pint.
Mix. Half of this is enough for a small dog.

CLYSTERS FOR THE HORSE may also in the general way be of warm water or gruel, of which some quarts will be required in colic. They should be thrown up with the proper syringe, provided with valves and a flexible tube.

(2) Turpentine clyster in colic, see ANTISPASMODICS.

(3) Aperient clysters, see APERIENTS.

(4) ANODYNE CLYSTER IN DIARRHŒA.
Starch, made as for washing, 1 quart.
Powdered opium, 2 drachms.
The opium is to be boiled in water, and added to the starch.

SECT. 20.—LOTIONS.

LOTIONS are liquids applied to the external parts when inflamed, and they act by reducing the temperature, and by giving tone to the vessels of the part.

LOTIONS FOR THE DOG:—

(1) COOLING LOTION IN BRUISES OR CUTS.
Extract of lead, 1 drachm.
Tincture of arnica, ½ to 1 drachm.
Water, ½ pint.
Mix and apply constantly by means of a sponge.

Cooling Lotion in Stiffness from
(2) Bruises or Work.

Tincture of arnica, 1 drachm.
Spirits of wine, 7 drachms.
Mix, and rub well into the part, before the fire, with the hand.

(3) Lotion for the Eyes.

Sulphate of zinc, 20 to 25 grains.
Water, 6 ounces. Mix.

Very Strong One, and only to be
(4) Dropped In.

Nitrate of silver, 5 to 8 grains.
Distilled water, 1 ounce.
Mix, and use with a camel-hair brush.

(5) For Internal Canker.

Nitrate of silver, 10 grains.
Distilled water, 1 ounce.
Mix, and drop in every night.

Lotions for the Horse:—

(6) Cooling Lotion for External Inflammation.

Goulard extract, 1 ounce.
Vinegar, 2 ounces.
Spirits of wine, or gin, 3 ounces.
Water, 1½ pint.
Mix, and apply with a calico bandage.

(7) Another, useful for Inflamed Legs, or for Galled Shoulders or Back.

Sal ammoniac, 1 ounce.
Vinegar, 4 ounces.
Spirits of wine, 2 ounces.
Tincture of arnica, 2 drachms.
Water, half a pint. Mix.

(8) Lotion for Foul Ulcers.

Sulphate of copper, 1 ounce.
Nitric acid, ½ ounce.
Water, 8 to 12 ounces. Mix.

Sect. 21.—Ointments.

Ointments are greasy aplications, consisting of a powerful drug mixed with lard, or some similar compound, and thus applied to the sore; they are generally more properly described under the several heads for which they are used. (See Astringents, Anodynes, &c.) Sometimes, however, as in the case of mange, it is more convenient to give a receipt for one here.

Mange Ointment.

Iodide of mercury, 1 drachm.
Lard, 1 ounce. Mix.

Sect. 22.—Stimulants.

Stimulants.—By this term is understood those substances which excite the action of the whole nervous and vascular systems; almost all medicines are stimulants to some part or other, as, for instance, aperients, which stimulate the lining of the bowels, but to the general system are lowering. On the other hand, Stimulants, so called, excite and raise the action of the brain and heart. They act much in the same way on the dog and horse.

Stimulant for the Dog:—

(1) Stimulating Mixture.

Aromatic spirit of ammonia, 1 ounce.
Tincture of cardamoms, 1 ounce.
Camphor mixture, 6 ounces.
Mix, and give two tablespoonfuls every six hours.

Stimulant for the Horse:—

(2) Old ale, 1 quart.
Carbonate of ammonia, ½ to 2 drachms.
Tincture of ginger, 4 drachms.
Mix, and give as a drench.

(3) For other stimulants, see Cordials.

Sect. 23.—Stomachics.

Stomachics are medicines given to improve the tone of the stomach when impaired by bad management or disease.

Stomachics for the Dog:

(1) Stomachic Bolus.

Extract of gentian, 6 to 8 grains.
Powdered rhubarb, 2 to 3 grains.
Mix, and give twice a day.

(2) Stomachic Mixture.

Tincture of cardamoms, ½ to 1 ounce.
Infusion of cascarilla, 7 ounces.
Carbonate of soda, ½ drachm.
Mix, and give two tablespoonfuls twice a day.

Stomachics for the Horse:—

(3) Stomachic Ball.

Powdered gentian, ½ ounce.
Powdered ginger, 1½ drachm.
Carbonate of Soda, 1 drachm.
Treacle to form a ball.

(4) Another.

Cascarilla powdered, 1 ounce.
Myrrh, 1½ drachm.
Castile soap, 1 drachm.
Mix, with syrup or treacle, into a ball.

(5) Another.

Powdered colombo, ½ to 1 ounce.
Powdered cassia, 1 drachm.
Powdered rhubarb, 2 drachms.
Mix as in No. 4.

Sect. 24.—Styptics.

Styptics are remedies which have a tendency to stop the flow of blood either from

internal or external surfaces. They are used either by the mouth, or to the part itself in the shape of lotions, &c.; or the actual cautery, which is always the best in external bleeding.

INTERNAL STYPTICS FOR THE DOG:—

(1) FOR BLOODY URINE, OR BLEEDING FROM THE LUNGS.

Superacetate of lead, 12 to 24 grains.
Tincture of matico, ½ to 1 ounce.
Vinegar, 2 drachms.
Water, 7 to 7½ ounces.

Mix, and give two tablespoonfuls two or three times a day to a full-sized dog.

(2) FOR BLOODY URINE (recommended by Mr. Mayhew).

Tincture of cantharides, 3 drops.
Water, 2 ounces.

Give two or three times a-day.

(3) For the HORSE, see ASTRINGENTS.

SECT. 25.—TONICS.

TONICS augment the vigour of the whole body permanently, whilst stimulants only act for a short time. They are chiefly useful after low fever.

TONICS FOR THE DOG:—

(1) TONIC PILLS.

Sulphate of quinine, 1 to 3 grains,
Ginger, 2 to 3 grains.

Extract of gentian, enough to form a bolus to be given twice a day.

(2) TONIC MIXTURE.

Compound tincture of bark, 1 ounce.
Decoction of yellow bark, 7 ounces.

Mix, and give two tablespoonfuls twice or thrice a day.

TONICS FOR THE HORSE:—

(3) TONIC BALL.

Powdered yellow bark, 1 ounce.
Ginger, 2 drachms.
Carbonate of soda, ½ drachm.

Form into a ball with linseed meal and water.

(4) ANOTHER TONIC BALL.

Sulphate of iron, ½ ounce.
Extract of camomile, 1 ounce.

Mix, and form into a ball.

(5) ANOTHER TONIC BALL.

Arsenic, 10 grains.
Ginger, 1 drachm.
Powdered aniseed, 1 ounce.
Compound powder of tragacanth 2 drachms.
Syrup enough to form a ball.

It is a very powerful tonic.

SECT. 26.—WORM MEDICINES.

WORM MEDICINES are given in order to expel worms, which they do partly from their specific action upon the worm itself, and partly by their purgative qualities, which all ought to possess, or to be followed by medicines of that class.

WORM MEDICINES FOR THE DOG:—

(1) ORDINARY WORM BOLUS.

Calomel, 2 to 4 grains.
Jalap, 12 to 18 grains.
Scammony, 1 to 3 grains.

Mix, and form into a bolus with treacle.

(2) WORM MEDICINES FOR ROUND WORM.

Indian pink, 1 ounce.
Boiling water, 8 ounces.

Let it stand for an hour, then strain, and give from one-eighth to one-half on an empty stomach once a-week. Castor oil should be given next day.

(3) FOR TAPE WORM.

Kousso, ½ to ½ ounce.
Lemon juice, ½ ounce.

Mix, and give as a drench, with the addition of a little water, on an empty stomach. This should be followed by a dose of castor oil eight hours after.

(4) FOR TAPE WORM (old plan).

Spirit of turpentine, 2 to 4 drachms.

To be tied firmly up in a piece of bladder, and given as a bolus, taking care not to break it.

(5) For TAPE WORM (another plan).

Root of male fern, 1 to 4 drachms.
Powdered jalap, 15 grains.

Liquorice powder or linseed meal enough to form a bolus with water.

(6) FOR WORMS GENERALLY.

Two drachms of powdered areca nut to be given mixed up in water as a drench, and followed by a dose of castor oil. This is the dose for a large dog. It may be regulated for all sizes by giving two grains of the nut for each pound the dog weighs.

(7) For the more detailed description of the remedies for Worms, see the sections on their treatment in the Diseases of the Dog and Horse.

WORM MEDICINES FOR THE HORSE:—

(8) Calomel, 1 to 2 drachms.
Barbadoes aloes, 3 to 6 drachms.
Ginger, 1 drachm.
Soap, 3 drachms. Mix.

(9) WORM DRENCH.

A pint of linseed oil every other day.

CHAPTER II.

MODE OF ADMINISTERING MEDICINES TO THE DOG.

The following remarks by the most recent writer on the diseases of dogs are so apt, and at the same time so consonant with what I have already published, that I shall introduce them here *in extenso*. With reference to his remarks on the difference of the action of drugs on man and the dog, I think they require considerable qualification. The analogy is perfect enough, though their action, and consequently their proper doses, vary considerably; nevertheless, the human practitioner, when he is aware of these differences, which are scarcely greater than between different members of the human family, is able to draw very correct conclusions from one to the other. These remarks, however, are peculiarly valuable as coming from a member of the veterinary profession, who has made the diseases of dogs his especial study, and whose observations are in the main highly valuable, and far superior to those of any other member of the same profession, who too often confine their attention to the horse, and while they profess to treat the diseases of all the domestic animals, they are profoundly ignorant of those of the dog:—

"Medicine to the dog requires to be administered with caution. The nostrums which are so particularly recommended by grooms and farriers ought never to be made use of. The veterinary surgeon is less likely to commit error; but there are, however, few of the profession who devote attention to the dog with the zeal which the comprehension of its diseases and their treatment demand. Huntsmen and gamekeepers are generally, from practical experience, not altogether inapt dog doctors, where the larger and more robust kind of animal is to be treated; but for the smaller and petted species these persons ought not to be consulted. Many of their receipts are harsh, not a few of them inoperative, and some even dangerous; while all for the most part are pushed down at random, or in total ignorance of any effect the agents employed may induce beyond the intended one of doing good or working a certain cure. Nevertheless, with the kind of animals generally intrusted to their charge, such persons are so far successful that, in the absence of better advice, they deserve to be consulted for the larger species of dogs. The human physician will also, on occasions, be enabled to prescribe advantageously for the canine race; but not knowing the treatment of the diseases, and the symptoms being too often deceptive, the highest opinions are by no means to be absolutely relied upon.

"Dog-doctoring is, in fact, a separate branch of science, so intricate as to call for intense study strengthened by constant observation. No one not attached to the animal should attempt to master it, for success in such a case would be hopeless. The annoyances are so great that the patience is continually being tried; and the facts on which reliance can be placed are so few, that he who is content to depend upon the received assertions will never be able to realize his expectation. Nothing is more erroneous than to believe that there is any close analogy between man and the dog in the operation of medicinal substances. Aloes, rhubarb, &c., are not purgatives to the dog; but castor oil, which to the human being is a gentle laxative, to the dog is an active purge; while Epsom salts are a violent hydragogue to the canine patient, producing copious and watery stools. Common salt is in large doses a poison, and in apparent small quantities is so strong an emetic as to be dangerous. Salivation speedily ensues upon the use of minute quantities of mercury, which therefore cannot be considered safe in the hands of the general practitioner. Secale cornutum has little specific action beyond that of inducing vomiting; and strychnia cannot be with security administered, on account of its poisonous operation upon the animal. Other instances, casting more than suspicion upon the inferences which every writer upon Materia Medica draws from the action of drugs given to dogs, could easily be quoted, but they would here be somewhat out of place; and probably sufficient has been said to check a dangerous reliance upon results that admit of no positive deduction.

"It is painful to peruse the '*experiments*,' made, especially by the French authors. We read that so much of some particular agent caused death to a dog in such a period; but he must be wise indeed who learns anything from statements of this kind. The word dog represents animals of various

sizes, and very diverse constitutions; therefore no conclusion can be drawn from an assertion that does not embrace every particular. Unfortunately, however, the operators think it no disgrace to their scientific attainments to put forth such loose and idle assertions; nor do they seem to hold it derogatory to their intelligence that they assume to reach a show of certainty by experimentalising upon a creature about which, as their reports bear witness, they literally know nothing. Equally unsatisfactory are the surgical and physiological experiments made upon these creatures. No results deduced from such acts can be of the slightest importance. The anatomy of the dog is not by them generally understood. There is no book upon the subject that is deserving of commendation; and, to instance the ignorance which prevails even in places where a superficial knowledge ought to exist, I will mention but one circumstance.

"At the Royal Veterinary College there is a professor of Particular Anatomy, whose duty it is specially to instruct the pupils concerning the dog. The lectures, however, embrace but little, and that little is principally devoted to wandering remarks upon the osseous structure. Of the value of such teaching some opinion may be formed when the skeleton at the College actually exhibits the bones placed in wrong or unnatural situations. After the proof thereby afforded, with what reliance can any sane mind accept the awful declarations of those anatomists who, upon the living bodies of these creatures have, according to their own accounts, exhibited a nicety and certainty of skill which the profoundest acquaintance with the various structures and parts would still leave incomprehensible? Such reports evidence only the presumptuous folly of individuals—the publication of such records testifies no more than the ignorance of the age.

"*To give medicine to the Dog* often creates more bustle than the magnitude of the creature appears to justify. Moreover, if the parties concerned in the undertaking are not quite up to their business, the animal, which, between its gasping, howling, and struggling, will find time to bite, increases the activity by provoking human exclamations. I have known this species of confusion to have been continued for half an hour; during which work was stopped in a forge, and three brawny smiths joined in a veterinary surgeon's efforts to give a pill to a little spaniel that could not have weighed above 8 lb. The dog was beaten, and hands were bitten, but, after all, no pill was swallowed. The result was the natural consequence of the manner of proceeding. No man should contend with an animal, and especially with a dog, whose excitement soon renders it incapable of obedience.

"With brutes of every kind, if the mastery cannot, by a bold stratagem, be gained at once it should be only established through the confidence of the animal, which a few acts of kindness will, in the majority of cases, easily win. I have had dogs brought to me which seemed disposed rather to part with life than permit their jaws to be handled. The poor beasts had been harshly used by the persons who had previously undertaken to treat them. These creatures have remained with me, and in a little time have grown so submissive that my shop-boy could with ease give any kind of physic which I ordered to be prepared. Firmness and kindness were the only stratagems I employed. I took care never to give the dog a chance of mastery, but while ensuring my victory, I was careful that the conquest caused no sense of pain. A few pats, with a kind word, and an occasional reward in the shape of a bit of meat, induced the creature more willingly to submit when the next dose came round.

"A small dog should be taken into the lap, the person who is to give the physic being seated. If the animal has learned to fight with his claws, an assistant must kneel at the side of the chair and tightly hold them when the dog has been cast upon his back. The left hand is then made to grasp the skull, the thumb and fore-finger being

pressed against the cheeks, so as to force them between the posterior molar teeth. A firm hold of the head will thus be gained,

and the jaws are prevented from being closed by the pain which every effort to shut the mouth produces. No time should be lost, but the pill ought to be dropped as far as possible into the mouth, and with the finger of the right hand it ought to be pushed the entire length down the throat. This will not inconvenience the dog. The epiglottis is of such a size that the finger does not excite a desire to vomit; and the pharynx and œsophagus are so lax that the passage presents no obstruction.

"When the finger is withdrawn, the jaws ought to be clapped together, and the attention of the creature diverted. The tongue being protruded to lick the nose and lips will certify that the substance has been swallowed, and after a caress or two the dog may be released. Large brutes, however, are not thus easily mastered. Creatures of this description must be cheated; and they, fortunately, are not so naturally suspicious as those of the smaller kind. For months I have thus deceived a huge, ferocious, but noble guardian of a yard, who appeared incapable of conceiving that deception was being practised. The dog bolts its food, and unless the piece be of unusual size, it is rarely masticated. The more tempting the morsel, the more eagerly it is gorged; and a bit of juicy or fat meat, cut so as to contain and cover the pill, ensures its being swallowed. Medicine, however, which in this manner is to be administered, ought to be perfectly devoid of smell, or for a certainty the trick will be discovered. Indeed, there are but few drugs possessed of odour which can be long used in dog practice, and even those that are endowed with much taste cannot be continuously employed. When the dog is very ill, the intelligent beast becomes conscious of its danger, and almost any kind or any form of medicine will be accepted. There is no difficulty generally then; but in chronic diseases, that only vex the temper and scarcely lower the spirit, the ingenuity will mostly need to be exerted. Some medicines, however, can be dissolved in the water; others may be smeared upon the food; and, fortunately, the majority of those drugs appropriate to slow and in-

veterate disorders admit of being thus exhibited. Fluids are perhaps more readily than solids given to dogs, by the generality of inexperienced persons. To administer liquids the jaws should not be forced open and the bottle emptied into the mouth, as when this method is pursued the greater portion will be lost. The animal's head being gently raised, the corner of the mouth should be drawn aside, so as to pull the cheek from the teeth. A kind of funnel will thus be formed, and into this a quantity of the medicine, equal to its capacity, should be poured. After a little while the fluid will, by its own gravity, trickle into the pharynx, and oblige the dog, however unwilling it may be, to swallow. A second portion should then be given in the like way, and thus, little by little, till the full dose is consumed. Often dogs treated in this fashion swallow a draught very expeditiously; but others will remain a considerable time before they deglutate. Some, in spite of every precaution, will manage to reject the greater part, and others will not waste a drop. The dexterity of the practitioner makes some difference; but no skill can ensure the drink being taken. Patience, however, is here of most avail; but when the mouth is full of fluid, by gently separating the jaws the animal may be caused to deglutate.

"Two pieces of tape, one passed behind the canine teeth or tusks of the upper, and the other in like manner upon the lower jaw, have been recommended. The tapes are given to an assistant, who, pulling at them, forces the mouth open, and holds it in that position. In certain cases this may be adopted for pills; indeed every stratagem will be needed to meet the multifarious circumstances that will arise. For ordinary occurrences, however, the practice is not to be commended, and should never be embraced when drinks have to be given: the animal cannot swallow while the jaws are held asunder; but for solids this plan answers better. There are several objections, however, to be urged against its constant use. The operation is violent, and the restraint it necessitates not only prevents the poor animal deglutating fluids, but also terrifies the brute, who, on the next occasion, naturally is the more resistful. Difficulties, therefore, increase, and the dog generally is not long before it learns to baffle the attempt to confine it. Moreover, unless the assistant be very well up to his business, his steadiness cannot be depended upon, and the hand often is wounded by the teeth of the patient.

"I, therefore, do not, as a general custom, resort to the tapes, and I advise others only to employ them upon necessity. There are some creatures so artful and so resolute that any attempt to give them physic is certain to be frustrated. These are mostly small dogs that have been tutored by severity, and such animals are not subdued by any amount of suffering. The poor beasts fear the doctor more than the disease; and though gentle in their dispositions, are resolute in their resistance. For such cases I employ the stomach-pump, and by its aid introduce a dose of sulphate of magnesia; for in general it is only purgatives that require to be given in bulk. Other drugs may be either disguised, or exhibited by injection. Enemata are of great service to this animal, and I make much use of them. In their exhibition, care should always be taken to introduce the pipe without any force; having previously greased the tube, to ensure its passing the more readily. While the instrument is in the rectum the dog should be firmly held, else, in its struggles, the intestine may be injured. The fluid should be gently thrown up, even when a large quantity is employed. For those injections, however, which it is desirable to have retained, from an ounce to a quarter of a pound will be sufficient. Warm water ought not to be used as an injection, since it washes away the mucus, renders the intestinal surface harsh, and prevents the passage of the fæces. Linseed tea, or any mucilaginous fluid answers the purpose better, and a solution of soap is excellent in many cases, when only a laxative effect is desired. The form, however, as will in the course of this work be explained, must be repeatedly varied, since this agent may be rendered medicinal or nutritive.

"Purgatives are most valuable, but are not free from danger. The digestive canal of the dog is peculiarly irritable, and no less sensitive to the action of medicine. There are few diseases in which the stomach and intestines are not involved, and very many in which purgatives are directly contra-indicated. No one should get into the habit of thrusting physic of this nature down the throats of his animals; and sportsmen may rest assured that, to the dog at all events, preparatory doses are not necessary to condition. Those, however, who persist in using such stuffs will do well not to employ the compounds in general use. The mixture of poppies, buckthorn, and castor oil is a filthy mess; and I do not understand the principles upon which the

abomination is based. A better and more cleanly mixture is thus made:—

Ol. Ricini	. . .	4 parts.
Ol. Olivæ	. . .	2 "
Ol. Anisi	. . .	Q. s " Mix.

"A little pounded sugar added to this will often render it palateable, which, being of a fluid consistency, is without difficulty exhibited. The compound, however, flows the more readily if it be slightly warmed, and in winter it even requires to be thus prepared. Sulphate of magnesia I rarely employ; and, as a general purgative, it is not suited to the dog, though in exceptional cases it will be seen I recommend it. Should pills be preferred, the following will be found to answer every purpose:—

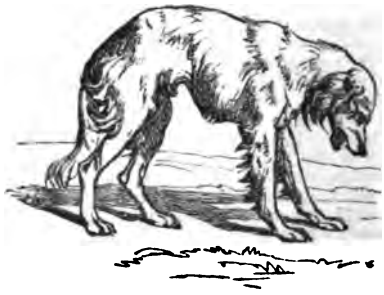
Ext. Col.	. . . .	½ scruple.
Pulv. Colch.	. . .	6 grains.
Pil. Hydrarg.	. . .	5 grains.

This is for one pill, which is a dose for a small dog of seven or eight pounds weight. Three times the quantity would be required for a Newfoundland. It is not very powerful in its action; its effect upon the system being quite as much alterative as laxative. The animal under its operation is evidently nauseated, and refuses food for about 12 hours; at the expiration of which time relief is afforded by a not very copious, but bilious evacuation. It is, however, important that, after the administration of a purgative, the dog should be permitted to remain perfectly quiet; since, if put to exercise, or much excited, the medicine will in all probability be ejected.

"Emetics are shamefully abused, being so universally employed by the owners of dogs, and so strenuously recommended by writers upon their treatment, that one might think these agents were held to possess some charmed power over the health of the animal. Lecturers are marvellously fluent upon the subject of the dog's vomiting, which they dwell upon with such delight that their auditors must suppose the act of revulsion in the canine species is a pleasurable performance. Let any one, however, possessed of sense and reason, observe the creature in the act of being sick. The attitude is not characterised by ease; but the body is drawn up preparatory for some unusual effort. The countenance does not bespeak tranquillity; but the face is expressive of inward oppression. The animal's frame is shaken by convulsive spasms, each throe being announced by a deep pectoral sound, and only after this has repeatedly been heard is the stomach able to cast off its contents.

"The description denotes nothing calculated to suggest that the organ whose derangement is so marked should be rudely tampered with. It is true the dog can readily be made to vomit. No creature is more easily moved in that way; but in such a circumstance reason should perceive no licence to thrust emetics down the animal's throat. The organ which is so readily excited, by the fact asserts its sensibility, and on that very account ought to be the more respected. I have found oftener difficulty to check this tendency than reason to provoke it. Repeatedly are tonics rejected, and only by the reduction of the dose can the dog's stomach be made to retain the medicine. The emetics in common use are far too violent. Antimonial wine, from half a tea-spoonful to a dessert-spoonful, is much preferable to tartar emetic and calomel.

"On no account should such doses as Blaine prescribed ever be exhibited. Youatt in his recommendation is much better, but even the amount he orders is too great. A quarter of a grain of tartar emetic in solution is sufficient for a middling-sized dog; and four grains of ipecacuanha is equally effective. If in two hours (which rarely



happens) no effect is produced, it is better to repeat the dose, and continue even to do so, than to commence with a larger quantity in the first instance. These animals in their constitutions are so various, and the practitioner has so little to guide his judgment, that the utmost caution will not in every instance protect him from self-reproach; and in no case is he warranted in closing his mind against the suggestions of prudence. It is true the primary effects of an emetic are generally gratifying, but the after consequences, if carefully traced, will not be found to be equally satisfactory. Often the purge and the vomit, with which every dabbler commences his treatment of a 'dog-case,' appear to give relief; but, commonly, when the immediate excitation which their first operation naturally calls forth passes away, debility ensues, and the termination is not in harmony with the beginning. I once was very partial to emetics. I now rarely make use of them, and have no reason to lament my change of practice.

"No notice will be bestowed upon those mysterious compounds known as alteratives, sedatives, &c., which are given merely because habit has sanctioned their administration. Names are in medicine dangerous things, and give a currency to error which, to man and beast alike, has proved fatal; neither will any attempt be made to classify diseases, which custom, though it has some advantages, is likely to mislead, by setting up a system where no positive connexion can be demonstrated. The disorders of the dog in this work will be treated after no formal plan; but the index must supply that want of arrangement, the absence of pretence to which probably will give offence to regular students."—*Mayhew on the Dog.*

CHAPTER III.

MODE OF ADMINISTERING REMEDIES TO THE HORSE.

The most common form in which medicine is given to the horse is by means of the ball, an oblong mass of rather soft consistence, yet tough enough to retain its shape, and wrapped up in thin paper for that purpose. The usual weight of the ball is from half an ounce to an ounce, but they may be given of a larger size, if they are made longer but not wider. Every groom should know how to give a ball, which is managed either with or without a balling-iron, an instrument which is seldom wanted, and which sometimes occasions considerable mischief to the roof of the horse's mouth. Occasionally a horse cannot be managed by any other means; but generally speaking, they are only an excuse for bad management. In giving a ball in the ordinary way, the horse's tongue is drawn out of his mouth on the off or right side, and held there firmly with the left hand grasping it as near the root as possible, but to a certain extent yielding to the movement of the horse's head, so as not absolutely to tear it out. While the tongue is thus held, the ball is placed between the fingers and thumb of the right hand, extended in a wedge-like or conical form, so as to pass as far down the swallow as possible, and the hand in this form, with the arm bared to the shoulder, is carried over the root of the tongue till it feels the impediment caused by the contraction of the swallow, when the fingers leave the ball there, and the hand is withdrawn quickly yet smoothly, while at the same moment the tongue is released, and the head is held up till the ball is seen to pass down the gullet on the left side of the neck, after which the head may be released. When the BALLING-IRON is used, the oval ring of which it is composed is passed into the mouth, so as to keep it open, being first well guarded with tow or cloths wrapped round it; the handle is then held in the left hand, *together with the halter*, so as to steady the head, and yet to keep the horse from biting; and while thus held the hand can freely be carried over the tongue, and the ball be deposited in the pharynx. When a horse is very determined, it is sometimes necessary to keep the iron in the mouth by means of the cheek-pieces of an ordinary bridle buckled to the sides of the oval ring; but this expedient is seldom required if the halter is firmly grasped with the handle of the iron. In the usual way the horse to be *balled* is turned round in his stall, which prevents his backing away from the groom; and if the latter is not tall enough, he may stand upon a *sound* stable-bucket turned upside down. Balls should be recently made, as they soon spoil by keeping; not

only losing their strength, but also becoming so hard as to be almost insoluble in the stomach, and frequently passing through the bowels nearly as they went into the mouth. When hard they are also liable to stick in the horse's gullet. If ammonia or any other strong stimulant, is given in this way, the horse should not have his stomach quite empty, but should have a little gruel or water just before, for if this is put off till afterwards, the nauseous taste of the ball almost always prevents his drinking. When arsenic forms the principal ingredient of the ball, it should be given soon after a feed of corn; or a quart or two of gruel should be given instead just before the ball.

THE ADMINISTRATION OF A DRENCH is a much more troublesome affair than the giving of a ball; and in almost all cases more or less of the dose is wasted. Sometimes, however, a liquid medicine is to be preferred, as in colic gripes, when the urgent nature of the symptoms demands a rapidly-acting remedy, which a ball, from its requiring time to dissolve, is not; and, besides this, a ball cannot contain any of the spirituous cordials. The best instrument for giving a drench is the horn of the ox, cut obliquely, so as to form a spout. Bottles are sometimes used in an emergency, but their fragile nature always renders them dangerous. In giving a drench, the tongue is held in the same way as for the delivery of a ball, but the head must be more elevated; the drench is then carefully poured into the throat, after which the tongue is let go, but the head still kept up till it is all swallowed. Allowance should always be made for some waste in giving a drench.

PHYSICKING, or the giving of *opening* physic, is necessary in many diseases, which will be specified as they severally come under observation. The mode of managing all horses while "in physic" is that which I shall here describe. In all cases, if possible, the horse should be prepared by bran mashes, given for two or three nights, so as to make the bowels rather loose than otherwise, and thus allow the dose to act without undue forcing of the impacted *fæces* backwards. If physic is given without this softening process, the stomach and bowels pour out a large secretion of fluid, which is forced back upon the rectum, and met by a solid obstacle which it takes a long time to overcome, and during that interval the irritating purge is acting upon the lining membrane, and often produces excessive inflammation of it. Purging physic should generally be given in the middle of the day, after which the horse should remain in the stable, and have chilled water as often as he will drink it, with bran mashes. By the next morning he will be ready to be walked out for an hour, which will set the bowels to act if they have not already begun. It is usual to tie up the tail with a tape or string, so as to keep it clean. The horse should be warmly clothed, and if the physic does not act with an hour's walk he may be gently trotted for a short distance, and then taken home; and, if still obstinate, he may be exercised again in the afternoon. As soon as the physic operates pretty freely the horse is to be taken into his stable, *and not stirred out again, under any pretence whatever*, for forty-eight hours after it has "set," or, in common language, stopped acting. When the purging has ceased, the mashes may be continued for twenty-four hours, with a little corn added to them, and a moderate quantity of hay. The water, during the whole time, should be in small quantities, and chilled; and the clothing should be rather warmer than usual, taking great care to avoid draughts of cold air. Every horse requires at least three days' rest for a dose of physic, in order to avoid risk of mischief.

THE MODE OF GIVING A CLYSTER is now rendered simple enough, because a pump and tube are expressly made for the purpose; and the groom has only to pass the greased end of the tube carefully into the rectum, for about eight or nine inches, and then pump the liquid up until a sufficient quantity is given. From a gallon to six quarts is the average quantity, but in colic a much larger amount is required.

LOTIONS are applied by means of calico bandages, if used to the legs; or by a piece of calico tied over the part, if to any other surface.

FOMENTATIONS are very serviceable to the horse in all recent external inflammations, and it is astonishing what may be done by a careful groom, with warm water alone, and a good-sized sponge. Sometimes by means of an elastic tube and stop-cock warm water is conducted in a continuous stream over an inflamed part, as in severe wounds, &c., in which this plan is found wonderfully successful in allaying the irritation, which is so likely to occur in the nervous system of the horse. A vessel of warm water is placed above the level of the horse's back, and a small India-rubber tube leads from it to a sponge fixed above the part, from which the water runs to the ground as fast as it is over-filled. It is a plan very easily carried out by any person of ordinary ingenuity.

PART V.

DISEASES OF THE DOG AND HORSE.

BOOK III.—THE DISEASES OF THE DOG, AND THEIR TREATMENT.

CHAPTER I.
FEVERS.

Sect. 1.—Simple Ephemeral Fever.

In the Dog, simple fever is merely a condition in which there is first a chilliness, accompanied by actual increase of surface heat, and quick respiration and pulse; then loss of appetite and diminished secretion of urine, with frequently costive bowels; and finally, a tendency to congestion in the mucous membrane of the lungs and nostrils, or of some other internal organ, but generally of the lungs and nose, producing cough and running at the nose and eyes. The febrile symptoms usually run a short course, seldom going beyond three days, but the congestion of the mucous membrane often remains much longer.

The Cause is almost always exposure to cold, especially a draught of cold air on a heated skin, after exercise.

The Treatment will be as follows:—In the first place, complete rest should be accorded; next, a dose of aperient medicine, with calomel, in the following shape, will generally be advisable, as it will clear away any sources of irritation which may exist—

Calomel, 2 to 4 grains.
Jalap in powder, 10 to 15 grains.
Ginger, 1 grain. Mix.

The dose will be in proportion to the size and strength of the dog, giving one-half or a quarter to a small one, or to a young puppy. When this has operated, with the assistance of some gruel, very little more will be necessary under ordinary circumstances, and in a few days the dog will be well.

Sect. 2.—Simple Epidemic Fever, or Influenza.

The species of fever is closely allied to the preceding variety in everything but the cause, which, instead of being exposure to cold, is some peculiar condition of the air to which the name epidemic is given, in order to conceal our ignorance, for it is really only giving a name and nothing else. The term influenza is precisely similar, both only signifying the peculiar and general prevalence of the complaint, and not defining its nature or its cause. The latter term is, however, applied more especially to epidemic catarrh, which is the form we are now considering. As the symptoms are very closely similar to those of simple cold, or ephemeral fever, it is unnecessary to repeat them; nor is the treatment in the first stage at all different. But as the cough and running seldom disappear without some extra care and attention, it does not always do to trust to nature here for a cure. Lowering medicines and diet after the first few days are not at all successful; and, on the other hand, warm expectorants, with tolerably good and nourishing slops, will be found to answer the best. The expectorant bolus, No. 1, may be given night and morning with advantage, and a stimulating embrocation, No. 1, applied to the side night and morning with the hand. As soon as the cough and running at the nose have somewhat subsided, and before exercise is allowed, the bark mixture (Tonic No. 2) may be given; and only when the strength and spirits are so recruited as to warrant the supposition that the health is greatly restored is the dog to be allowed exercise, and then only at first with great caution. It is often the case that a premature exposure to air and excitement brings on a relapse, and especially when the lungs are at all implicated either in their substance or mucous membrane. A human patient can be taken out in a carriage, but dogs, unless they are great pets, are seldom allowed that indulgence; and hence the necessity for the above precaution.

Sect. 3.—Typhus Fever or Distemper.

In a previous series of letters I have entered at great length into the nature of

distemper, as it is called, in order to show its exact similarity to typhus fever; and in that opinion I am now more than ever settled, with enlarged time and opportunity of observation. Mr. Mayhew, to whom I have already referred, as the most recent and correct veterinary writer on the diseases of the dog, seems to agree in the main with my opinion, though he likens it to "continued fever" in the human subject, instead of typhus. Here, however, I think he is wrong; probably from not being sufficiently conversant with continued fever in man, in which disease the febrile action is very high, and the prostration of strength and emaciation not nearly so rapid as in typhus and distemper. However, it is some satisfaction to find him leaving the beaten track, even though he still adheres to the old prejudice in favour of the *mucous membranes*, which he thinks are the main seat of the fever. "It essentially is fever affecting the entire of the mucous surfaces, but especially those of the alimentary canal."—*Mayhew*, page 36. It is extraordinary what a difference there is among observers, for Mr. Mayhew comes to the conclusion that it is very doubtful whether it is contagious or not; and that all dogs, whether starved or taken care of, are equally its victims. Now, I am inclined to believe as he says, that in this opinion he will be at variance with ninety-nine out of a hundred of those who have had to do with dogs, and I am decidedly of opinion that he is wrong in both suppositions. But leaving out of view all the arguments *pro* and *con.* which I have heretofore inflicted upon my readers, I will proceed to describe what I believe to be the essence of the disease, and its best mode of treatment, which is what the sportsman chiefly cares about, and in which there is very little difference in principle between the plans advocated by Mr. Mayhew and my own, which were, however, promulgated long before his volume saw the light.

THE ESSENCE OF THE DISEASE is a depraved or poisoned condition of the blood, which may arise spontaneously or be produced by contagion. When it arises from contagion, the disease is clearly distemper from the first; but when arising spontaneously, it often supervenes upon other diseases, such as common or epidemic catarrh, &c.; and then it is not at once clear in the early stage whether it may assume the character of distemper or not. No other disease prostrates the system so rapidly, nor does any other produce such rapid emaciation; both arising from the action of a poison in the blood, by which the nervous system is affected, and the solid matter of the muscles rapidly broken down. It appears to me that in the genuine distemper all the secretions are vitiated in quality, or diminished in quantity, so that the urine is high-coloured and scanty; the bowels are costive or loose, and their discharges of a peculiarly offensive character; and the mucous membranes of the eyes, nose, and lungs pouring out a thick viscid and yellow mucus. The bile, if any is secreted, is black and scanty; and the saliva is absent, with a thick black formation of "sordes" about the mouth in its place. Since, therefore, these are not nearly all *mucous* secretions which are altered, but of different glands, it can scarcely be said to be a fever of mucous membranes alone, but rather a fever implicating all the secretions of the body, and also the organs of nutrition, so that the body is neither properly depurated nor supported whilst it exists.

THE SYMPTOMS are very various, as may be expected, considering the nature of the disease; and that it may either arise from contagion or in consequence of the attack of other diseases. They may, however, mainly be summed up as consisting of two sets—first, the invariable symptoms; and secondly, the occasional ones. The invariable symptoms are low insidious fever, excessive prostration, and rapid emaciation, both much greater than any other similar disease will produce; so that it is very common to find a dog which is in tolerable health, though perhaps ailing slightly, in three days quite unable to stand, and wasted to a skeleton. These symptoms often occur without purging, or any apparent cause except the fever; and when they come on, even where there is no running at the eyes and nose, or cough, or other local complication, the disease is clearly distemper; and there is great danger, from the general poisoning of the blood and the great loss of strength attending upon it, in consequence of the want of depuration and nutrition. The appetite is also almost always bad, and must be forced in most cases in order to support the powers. The accidental symptoms are connected with the various complications which occur in this Protean complaint, and depend upon the organ or organs which are the seat of the congestion or inflammation. Thus, if the lungs are attacked, there is evidence of congestion of the lungs. If the bowels are the seat of complication, they show it by the signs peculiar to that disease, and so on; and in each case attention must be paid to the

peculiar complication in order to combat it by appropriate remedies.

THE USUAL COURSE OF DISTEMPER when contracted by contagion, or when epidemic, as it sometimes clearly is, may be described as follows:—The first thing observed is a peculiar dulness of the eyes, with a general lassitude, and indisposition either to play or work, but not of such a character as to mark anything but an ordinary cold, or other slight ailment. But usually accompanying this there is a peculiar cough, which comes on without anything apparently to cause it, and generally between a cough and a sneeze, so that the dog stands and coughs and sneezes, or sneezes and coughs, for five minutes at a time, as soon as he is taken out, but is free from it in the kennel; and it is only when the blood is driven through the mucous membrane more rapidly than usual that this condition is produced. But though this is easily detected by the practised ear (because the character is less bold and decided than in ordinary or epidemic cough or catarrh), yet to the uninitiated it is not so clear, and this symptom alone will seldom lead to any decided knowledge of what is to come. If, however, it has made its appearance at a time when there has been no exposure to cold or wet, and especially in a puppy, either at six months old, when teething, or in the following spring, when shedding the coat, it is a very suspicious symptom at all times. But when a dog with this sneezing at once loses its appetite entirely, *without being sick*, and at the same time loses his strength and flesh in a few days, almost entirely, it may safely be inferred that the distemper is coming on, unless there is some other disease apparent, such as violent inflammation of the lungs, liver, or bowels. With this condition of the general system, and of the nose and throat, there is almost always a discharge of black and pitchy fæces, scanty in quantity, unless diarrhœa comes on, but very offensive. The water is high coloured, and the dog is chilly, and disinclined to leave his kennel. The eyes are congested, and somewhat irritable on exposure to a strong light; they are generally, more or less, glued up with mucus, and sometimes to such an extent as to run down the face in a long pearly drop. The nose also is either dry and hot, or cool and discharging a thick mucus, often tinged with blood; and sometimes there is a frothy expectoration from the first. After a time the mouth becomes loaded with brown fur, called "sordes." The respiration is very quick, and the pulse is either quick, yet without power, or sometimes so slow as to be even below the number of respirations, which is a state I have never seen except in distemper. It usually runs a course of from three to six weeks, and may be considered as divided into four periods; first, the period of incubation, called *incipient*; secondly, the period of *reaction*, in which the various complications make their appearance; thirdly, the period of *prostration*, marking its true typhoid nature; and, fourthly, the period of *convalescence*. When distemper supervenes upon other diseases, its early symptoms are not developed, and neither the *incipient* stage nor the stage of *reaction* are indicated; but after the usual progress of an attack of common catarrh, or of ordinary inflammation of the lungs, the *typhoid* stage is manifested, and the dog may be said to have true distemper, and in common language it is so described.

1. HEAD COMPLICATION. — Besides the general symptoms enumerated above, there is sometimes an evident torpor of the brain, with a fit occurring early in the attack, marking congestion of that vital organ. The eyes are generally deeply injected with dark blood when this is the case; and there may, or may not, be at the same time congestion of the mucous membrane of the nose, eyes, and lungs, which usually occur together. This of the head is the worst complication which can occur except perhaps violent diarrhœa; but it is even more unmanageable than that. A second or third fit generally takes the dog off at once; or, if he lives through this stage, he becomes a confirmed cripple, from *chorea*, which generally supervenes upon this complication.

2. BRONCHIAL COMPLICATION is by far the most common, and it is also the most under control. In it there is generally an excessive running, from the eyes and nose, together with violent cough, quick breathing, and sometimes, though not often, actual inflammation of the lungs.

3. THE BOWELS are often the seat of a complication, and when this is the case there is generally present at first a violent purging of black pitchy fluid, followed by watery and offensive motions, and patches of lymph or whitish skin mixed with them. After a time blood makes its appearance in streaks, and then in large quantities, and if this is not checked, the dog rapidly sinks and dies from exhaustion.

4. THE SKIN is attacked by a crop of large and small pustules, or blebs, filled with matter, often tinged with purple blood. This is a good sign, and indicates that the

disease is expending itself upon an organ not directly implicating life.

DISTEMPER may easily be confounded with those simple inflammations which attack the same organs; thus, madness implicating the brain, bronchitis or diarrhœa may all be readily mistaken for it, but the distinction consists in the *low* fever, the prostration and the rapid emaciation, which are all *much* less marked in the above diseases. Whenever a simple inflammation attacks any of these organs there is *high fever*, with greatly increased heat of the nose and legs; bounding and quick pulse, and very rapid breathing, amounting to panting in bronchitis, pleurisy, pneumonia, or with a refusal to lie down; but, on the contrary, in distemper, the nose and legs are generally cold after the first stage; the fever is low, and the breathing, though quick, is not panting, nor is the pulse hard or greatly accelerated, often being below the frequency of the respirations.

THE TREATMENT will depend much upon the stage of the disease. The grand principle in the two first of the periods, mentioned in page 712, is to hold the hand and wait for symptoms; it is far better to do nothing than to do harm, and if there is no occasion for medicine it should not be given. If, however, the bowels are confined, or if the motions are black and offensive, a calomel and jalap purge, No. 2, may be given, and it may be followed up by small doses of rhubarb and ipecacuanha, consisting of 2 or 3 grains of the former, and ½ a grain of the latter, two or three times a day, diminishing the dose by one half for a small dog. If this produces a good colour in the evacuations it may be stopped, and nature suffered to take her course, with the aid of a little nitre in the water, which will not be rejected by the thirsty dog, in the proportion of 10 grains to the pint. When reaction sets in, the treatment must depend upon the organ attacked, always remembering that in distemper active measures are not borne with impunity, and that bleeding and severe purging will almost inevitably kill. If the head is the seat of complication, counter-irritation is the only means of affording relief; and the best mode of effecting it is to pass a large seton through the neck with a red-hot skewer, which does not give the pain which might be imagined. The seton should afterwards be dressed with mild blister-ointment, No. 1, rubbed into the tape every day. With this may be given, after the calomel and jalap purge, a mixture as follows:—

Nitre, 1½ drachm.
Sweet spirits of nitre, 2 drachms.
Tincture of henbane, 2 drachms.
Tincture of colchicum, 1 drachm.
Camphor mixture, 6 ounces.

Mix, and give one-sixth three times a day. The eyes may always be allowed to take their own course.

If the lungs are the seat of complication, the expectorant bolus, No. 1 or 2, may be given three times a day; and, if very violent, the embrocation, No. 1, applied to the chest every night. For the bowels, when relaxed, anodyne applications are needful, and one or other of those given in the list of anodynes will be likely to be useful; beginning with those first mentioned, and using rice and rice-water or arrowroot as food, and *nothing else*. In the stage of prostration which comes on immediately the stage of reaction begins to decline, strengthening food and tonics must be liberally given, consisting of bark and wine with arrowroot or beef-tea. The bark is to be given in the shape of decoction of the yellow bark, one ounce, with a teaspoonful of Huxham's tincture of bark; and if the dog is very low and weak, 30 drops of aromatic spirit of ammonia. This dose should be given three times a day, and it will often succeed in restoring an apparently hopeless attack. In one case which occurred at the Knightsbridge barracks during the present summer, a very handsome young greyhound bitch was actually drawn out of her bed, being supposed to be dead, and was ordered to be buried; but, giving a groan or a gasp, her master ordered her to be liberally supplied with this medicine, and she gradually recovered. In the *convalescent* period the great danger is of a relapse from too early exercise. It is a long time before the heart recovers itself so as to be fit for exertion, and yet the dog's spirits are often so buoyant after a long confinement, as to lead him to gallop and play about in a way which soon leads to a second attack of the same character as the first, and with the additional complication of a prostrated and debilitated constitution. No dog after distemper should be taken out without a leading-strap, and he should only be walked for half a mile or so at first till he gets strength enough to bear more. By this precaution few relapses occur; and in most cases, with ordinary prudence, if a dog lives over the first fortnight he will recover, if attention is paid to his diet and medicine. The latter I have already alluded to, and now I shall speak of the former.

THE DIET, which is even more important

than medicine, in the early or incipient stage, should be very light, such as oatmeal porridge, flavoured with milk or with mutton broth. If diarrhœa comes on, rice-water should be allowed as the sole drink, and well-boiled rice given as food, flavoured with milk. This diet is to be continued until the typhoid stage comes on, when strong beef-tea, arrowroot, and port wine, or boiled rice, with a little brandy in it, should be given, and, if necessary, forced upon the dog by drenching him with a spoon. This treatment will often be necessary until the *convalescent* stage is fully established, when the appetite returns, and the dog feeds as usual; but it will be a long time before his stomach is strong enough to bear solid food.

WARM CLOTHING is of the greatest consequence throughout the progress of the distemper, if the attack comes on during cold weather. Plenty of fresh air must be always given, but from it the body should be protected by a soft, but warm, cloth, kept on night and day, and plenty of clean straw, which should be changed at least twice a week. The kennel ought also to be kept scrupulously clean, and should be constantly swept out, though washing in very cold weather is not to be practised.

FOR THE TREATMENT OF WORMS IN DISTEMPER, see Mr. Mayhew's remarks, in which I fully agree.

SUMMARY OF DISTEMPER.—The essence of the disease is *low* fever, of a typhoid character. The secret of successful treatment is not to do too much in the *first* stage, but simply to correct the torpid condition of the liver; in the *second*, to combat symptoms as they arise, by as mild treatment as will control them; and in the *third*, to support the strength by tonics, and plenty of nourishing food;—whilst a relapse is to be guarded against by carefully keeping the dog to his kennel till quite strong again. Such is the treatment which I have found so successful that I would engage to cure 99 out of every 100 dogs attacked by distemper, if previously healthy; but as others may not be equally lucky, I will present to their notice an extract from Mayhew's recent book on the diseases of the dog, detailing his method of treatment, which he asserts to be almost invariably successful, and which statement I can easily believe, inasmuch as it is founded upon the same principles as mine, though more complicated in its details. It will be observed that Mr. Mayhew dilates at much greater length than I have done upon the *minutiæ* of treatment; but as his remarks are intended for his veterinary brethren, whilst mine are solely aimed at affording information to the sportsman, there is some reason for the length to which he has extended them. The greater part of his remarks are quite in accordance with my own observations, and are either founded upon my previously-published letters, or *in very curious coincidence with them*. But there are some of his remedies which are new to me as applied to this disease, as, for instance, the preparation of arsenic, of the operation of which in distemper I know nothing, and also the extract of belladonna; both of which may, however, be useful, for aught I know to the contrary; but they must be exhibited on his authority, and not on mine. The other remedies are so nearly similar to mine, that I need not say anything about them, except to remark to those who know little of drugs, that quinine, recommended by Mr. Mayhew, is the active principle of yellow bark, upon which I place my chief reliance, and which I think is much better than its modern substitute.

MR. MAYHEW'S TREATMENT OF DISTEMPER:—"The symptoms of distemper, as the reader will, after wading through the foregoing description, have perceived, are numerous and complicated; they admit of no positive arrangement, being both excentric in their order and appearances. Redness of the eyes, with discharge from both eyes and nose, accompanied with ordinary signs of illness, are the early indications; but even these are not to be sought for, or to be expected in any single form. The judgment must be exercised, and study strengthened by experience will alone enable any man to pronounce the presence of distemper in many cases; while, perhaps, without knowledge or practice any person may recognise it in the generality of instances.

"The treatment is rendered the more difficult because of the insidious nature of the disorder, and the uncertain character of its symptoms; under such circumstances, it is no easy task to make perfectly clear those instructions I am about to give. I am in possession of no specific; I do not pretend to teach how to conjure; I am going only to lay down certain rules which, if judiciously applied, will tend to take from this disease that fatal reputation which it has hitherto acquired. I shall be obliged, however, to leave much to the discretion of the reader; for it would employ too great a space, did I attempt to make provision for all possible accidents and probable combinations.

"The diet is of all importance; it must be strictly attended to. In the first place, meat or flesh must be withheld. Boiled

rice, with a little broth from which the fat has been removed, may be the food of a weakly animal, but for the majority bread and milk will be sufficient; whichever is employed must be given perfectly cold. Sugar, butter, sweet biscuits, meat, gravy, greens, tea or pot liquor—either luxuries or trash, must be scrupulously denied in any quantity, however small. Skim-milk, if perfectly sweet, is to be preferred, and coarse bread or ship biscuits are better than the same articles of a finer quality. These will form the diet, when the dog can be brought to accept them; and to rice, the favourite (however great may be the pity he elicits, or however urgent may be his solicitations for a more liberal fare) must be rigidly confined. If, after a few trials, the dog stubbornly refuses such provender, meat must of necessity be given, but it should be of the very best description, and rather underdone. Of this kind, it ought to be minced, and mixed with so much rice or ship biscuit as the animal can at first be made to eat with it; the rice or biscuit may then be gradually increased; and in the end the vegetable substance will constitute, at all events, the major part of the support. Water, constantly changed (a circumstance too little attended to where dogs are concerned), must be the only drink; the bed must be warm and dry, but airy. Cleanliness cannot be carried to too nice an extent; here the most fastidious attention is not out of place. Let the kennel be daily cleared, and the bed regularly changed at least thrice a week; straw or hay is better for the dog to sleep upon than cushions or blankets, which being more expensive, are not so frequently replaced. Too much hay or straw cannot be allowed; but, on the other hand, it is difficult to regulate the quantity of the finer articles. In the last kind of bed the animal is often almost smothered, or else he scrapes them into a lump, and lies shivering on the top; whereas, when he has straw to lie upon, he can either creep beneath it and shelter himself when sensible of cold, or expose himself to the air when oppressed by the fever. The sensations being the only guide, it is best to leave the dog, as much as possible, capable of obeying its instinct; but always let the bed be ample, as during the night the shivering generally prevails, and the cold fit is entirely independent of the heat to be felt at the skin, or the temperature of the season. Let the dog be kept away from the fire, for if permitted, it will creep to the hearth, and may be injured by the falling cinders, when the burn will not perhaps readily heal. A cold or rather cool place is to be selected, one protected from wet, free from damp, and not exposed to wind or draughts. The kennel, if properly constructed, is the better house, for dogs do best in the open air; the only objection to which is, the chance it offers of the animal being drenched with rain. If the kennel can be placed under an open outhouse, I should always have it put there; and what else I would recommend is, of course, told by the line of conduct which I pursue.

"Medicinal measures are not to be so quickly settled. A constant change of the agents employed will be imperative, and the practitioner must be prepared to meet every symptom as it appears. The treatment is almost wholly regulated by the symptoms, and as the last are various, of course the mode of vanquishing them cannot be uniform. To guide us, however, there is the well-known fact, the disease we have to subdue is of a febrile kind, and has a decided tendency to assume a typhoid character; therefore, whatever is done must be of a description not likely to exhaust; depletion is altogether out of the question. The object we have to keep in view is the support of nature, and the husbanding of those powers which the malady is certain to prey upon: in proportion as this is done, so will be the issue. In the very early stage, purgatives or emetics are admissible. If a dog is brought to me with reddened eyes, but no discharge, and the owner does no more with regard to the animal than complain of dulness, a want of appetite, and a desire to creep to the warmth, then I give a mild emetic such as is directed, page 82; and this I repeat for three successive mornings; on the fourth day administering a gentle purge, as ordered, page 30. The tartar emetic solution and purgative pills I employ for these purposes, in preference to castor oil or ipecacuanha, and during the same time I prescribe the following pills:—

Ext. belladonna, 6 to 24 grains.
Nitre, 1 to 4 scruples.
Extract of gentian, 1 to 4 drachms.
Powdered quassia, a sufficiency.

Make into 24 pills, and give 3 daily; choosing the lowest amount specified, or the intermediate quantities, according to the size of the animal.

"Often under this treatment the disease will appear to be suddenly cut short; with the action of the purgative, or even before it has acted, all the symptoms will disappear, and nothing remains which seems to say any further treatment is required. I never

rest here, for experience has taught me that these appearances are deceptive, and the disorder has a disposition to return; consequently strict injunctions are given as to diet, and a course of tonics is adopted:—

Disulphate of quinine, 1 to 4 scruples.
Sulphate of iron, 1 to 4 scruples.
Extract of gentian, 2 to 8 drachms.
Powdered quassia, a sufficiency.

Make into 20 pills, and give 8 daily.

"At the same time I give the liquor arsenicalis, which I prepare not exactly as is directed by the 'London Pharmacopœia,' but after the following method:—

"Take any quantity of arsenious acid, and adding to it so much distilled water as will constitute 1 ounce of the fluid to every 4 grains of the substance, put the two into a glass vessel; to these put a quantity of carbonate of potash equal to that of the acid, and let the whole boil until the liquid is perfectly clear. The strength is the same as the preparation used in human practice; the only difference is, the colouring and flavouring ingredients are omitted, because they render the medicine distasteful to the dog. The dose for the dog is from 1 to 8 drops; it may be carried higher, but should not be used in greater strength, when a tonic or febrifuge effect only is desired.

"Of the liquor arsenicalis, I take 10 or 20 drops, and adding 1 ounce of distilled water, mingled with a little simple syrup, I order a teaspoonful to be given thrice daily with the pills, or in a little milk, or in any fluid the creature is fond of. The taste being pleasant, the dog does not object to this physic; and it is of all importance that it should be annoyed at this time as little as may be possible.

"Numerous are the cases which have thus been shortened by this method; and the advantage gained by this mode of treatment is, that if the measures employed be not absolutely necessary, they do no harm; and, if required, they are those which are calculated to mitigate the violence of the disease; so, for three or four weeks, I pursue this course, and should all then appear well, I dismiss the case.

"Most generally, however, the dogs brought to us with the distemper have the disease fairly established before we see them; then I never purge nor vomit; the time when such agents could be remedial has passed, and if now used, though they will seem to do some immediate good, the after consequences are always to be regretted. The action of the purgative has scarcely subsided before the distemper assumes a more virulent form, and the probability of the termination is rendered more dark. During the distemper I pay little attention to the bowels; and, however great may be the costiveness, I never venture to resort even to a laxative, though, should I discover the rectum to be impacted with hard fæces, an enema may be employed. That which I use on these occasions is composed of gruel, to which some sulphuric ether and laudanum has been added:—

Cold gruel, 1 quart
Sulphuric ether, 4 drachms.
Laudanum, 1 scruple.

"The above quantity will be ample for the largest dog, one-eighth will be enough for a small animal, and for a mere pup an ounce of the fluid is often sufficient. In these cases, however, I always continue the injection until it is returned; the object not being to have it retained, but simply to lubricate the part, and thereby to facilitate the passage of the fæces, while by distending the rectum, that intestine is stimulated to expel its contents. The ether and laudanum are introduced to guard against the possibility of irritation. If a more than usual disposition to costiveness be observed, twice a week a meal of liver, chopped very fine, is allowed; but even this should be given only after there is absolute proof of its necessity.

"Of the cough, however distressing it may be, I take no notice. I do nothing for its relief, but persevere in the tonic treatment, and become more strict in my directions concerning diet. The cough is only one of the symptoms attendant on the disorder, and the measures likely to mitigate its severity will aggravate the disease; while, by attacking the disorder, we destroy the cause, and with that the effect also disappears.

"The eyes I treat, or rather refuse to treat, upon the same principle. Whatever may be the appearance they present—even though the animal should be actually blind, the eye of a dull, thick white colour on its entire surface, and the centre of the cornea ulcerated—nevertheless, I let them alone, and turn a deaf ear to the entreaties which call on me to relieve so terrible an affliction: I forbid even the discharge to be washed off. Nothing must go near them; but the treatment must be pursued as though we were ignorant that the parts were affected. Any excessive accumulation may be gently picked off with the fingers once a-day; but even this must be performed with the utmost caution, and, in most instances, had better

be let alone. It can only be necessary in dogs that have very long hair, which becomes matted and glued together upon the cheeks; for other animals it is not imperative. If the lids should be stuck together, the fastening substance may be removed; but it should not be too quickly done even then. All water, either warm, tepid, or cold, every kind of lotion, or any sort of salve or powder, will do harm, by either weakening or irritating the organs. As to bleeding, blistering, and setoning, which have been advised, they are contrary to the dictates of humanity, and, as a necessary consequence, are injurious. In medicine, at least with the dog, that which is not kind is not good. With these animals the feelings are much safer than the reason; and a lady, consulting the impulses of her heart, would be more likely to save her favourite than a veterinary surgeon, who proceeded upon the practice of that which he supposed was his science. Let the eyes of the sufferer alone; we cannot alleviate the pain, or shorten its duration. The disease regulates the torture, and to that we must give attention. If the distemper is conquered, the sight will mostly be restored; but if the eyes are tampered with, consequences may ensue which are not natural to the disease, but are induced by the crude and cruel prejudices of the doctor. The man who, during distemper, seeing an ulcer upon the cornea, under the imagination that by so doing he will set up a healthy action, presumes to touch it with lunar caustic, will, in the resistance of the poor patient, be rebuked, and, by the humour of the eye squirting into his face, probably be informed that he has accomplished the very object he intended to prevent, while a fungoid mass will spring up to commemorate his achievement.

"When the lungs are attacked, all kinds of mistaken cruelties have been perpetrated. No wonder the disease has been so fatal, when it has been so little understood. I cannot conceive that any dog could survive the measures I was by my college tutor taught to pursue, or the plan which books told me to adopt. Needlessly severe, calculated to strengthen the disease, and to decrease the power of the animal to survive, as the general practice decidedly is, I entreat the reader to reject it. In truth, the involvement of the lungs is, in distemper, a very slight affair; no symptom yields more quickly or to milder means. Do not forget the diet, but let it be both low and small. The system cannot endure depletion, therefore we must gain whatever we can through abstinence. Do not starve, but be cautious not to cram the animal; only keep it so short that it remains always hungry. The meal must now never be full, or sufficient to satisfy the appetite, which is usually large. A loaded stomach would do much injury, therefore little and often is the rule. The amount for the day must be cut off in the morning; and during the day, at as many times as the owner pleases, it may, little by little, be offered, but no more must be allowed. If the dog should not be inclined to eat, which is not often the case at this peculiar period, the circumstance is hardly to be regretted; he is not, save under the direction of one qualified to give such an order, to be enticed or forced. As for medicine, let the following pill be given thrice daily:—

Extract of belladonna, 1 to 4 grains.
Nitre, 3 to 8 grains.
James's powder, 1 to 4 grains.
Conserve of roses, a sufficiency.

This will be the quantity for one pill; but a better effect is produced if the medicine be administered in smaller doses, and at shorter intervals. If the dog can be constantly attended to, and does not resist the exhibition of pills, or will swallow them readily when concealed in a bit of meat, the following may be given every hour:—

Extract of belladonna, ¼ to 1 grain.
Nitre, 1 to 4 grains.
James's powder, ¼ to 1 grain.
Conserve of roses, a sufficiency.

"With these a very little of the tincture of aconite may be also blended, not more than 1 drop to 4 pills. The tonics ought during the time to be discontinued, and the chest should be daily auscultated to learn when the symptoms subside. So soon as a marked change is observed, the tonic treatment must be resumed, nor need we wait until all signs of chest affection have disappeared. When the more active stage is mastered by strengthening the system, the cure is often hastened; but the animal should be watched, as sometimes the affection will return. More frequently, however, while the lungs engross attention, the eyes become disordered. When such is the case, the tonics may be at once resorted to; for then there is little fear but the disease is leaving the chest to involve other structures.

"Diarrhœa may next start up. If it appears, let ether and laudanum be immediately administered, both by the mouth and by injection. To 1 pint of gruel add 2 ounces of sulphuric ether, and 4 scruples of the tincture of opium; shake them well to-

gether. From half an ounce to a quarter of a pint of this may be employed as an enema, which should be administered with great gentleness, as the desire is that it should be retained. This should be repeated every third hour, or oftener if the symptoms seem urgent, and there is much straining after the motions. From a table-spoonful to four times that quantity of the ether and laudanum mixture, in a small quantity of simple syrup, may be given every second hour by the mouth; but if there is any indication of colic, the dose may be repeated every hour or half-hour; and I have occasionally given a second dose when only ten minutes have elapsed. Should the purgation continue, and the pain subside, from 5 to 20 drops of liquor potassæ may be added to every dose of ether given by the mouth; which, when there is no colic, should be once in three hours, and the pills directed below may be exhibited at the same time:—

> Prepared chalk, 5 grains to 1 scruple.
> Powdered ginger, 3 to 10 grains.
> Powdered caraways, 3 to 10 grains.
> Powdered capsicums, 1 to 4 grains.
> Confection of roses, a sufficiency.

To the foregoing, from 2 to 8 grains of powdered catechu may be added should it seem to be required, but it is not generally needed. Opium more than has been recommended, in this stage, is not usually beneficial; and, save in conjunction with ether, which appears to deprive it of its injurious property, I am not in the habit of employing it.

"I have been more full in my directions for diarrhœa than was perhaps required by the majority of cases. Under the administration of the ether only, I am, therefore, never in a hurry to resort even to the liquor potassæ, which, however, I use some time before I employ the astringent pills, and during the whole period I persevere with the tonic. The diet I restrict to strong beef tea, thickened with ground rice, and nothing of a solid nature is allowed. Should these measures not arrest the purgation, but the fæces become offensive, chloride of zinc is introduced into the injection, and also into the ether given by the mouth. With the first, from a tea-spoonful to a table-spoonful of the solution is combined, and with the last half those quantities are blended. A wash, composed of 2 ounces of the solution of the chloride to a pint of cold water, is also made use of to cleanse the anus, about which, and the root of the tail, the fæces have a tendency to accumulate. Warm turpentine I have sometimes with advantage had repeatedly held to the abdomen, by means of flannels heated and then dipt into the oil, which is afterwards wrung out. This, however, is apt to be energetic in its action; but that circumstance offers no objection to its employment. When it causes much pain, it may be discontinued, and with the less regret, as the necessity is the less in proportion as the sensibility is the greater. Should it even produce no indication of uneasiness, it must nevertheless not be carried too far, since on the dog it will cause serious irritation if injudiciously employed; and we may then have the consequences of the application to contend with added to the effects of the disease. When it produces violent irritation, a wash made of a drachm of the carbonate of ammonia to half a pint of water may be applied to the surface; and when the inflammation subsides, the part may be dressed with spermaceti ointment. The fits are more to be dreaded than any other symptom; when fairly established, they are seldom mastered. I have no occasion to boast of the success of my treatment of these fits. All I can advance in favour of my practice is, that it does sometimes save the life, and certainly alleviates the sufferings of the patient; while of that plan of treatment which is generally recommended and pursued, I can confidently assert it always destroys, adding torture to the pains of death. In my hands not more than one in ten are relieved, but when I followed the custom of Blaine none ever lived, -the fate was sealed, and its horrors were increased by the folly and ignorance of him who was employed to watch over, and was supposed to be able to control. Let the owners of dogs, when these animals have true distemper fits, rather cut short their lives than allow the creatures to be tampered with for no earthly prospect. I have no hesitation when saying this: the doom of the dog with distemper fits may be regarded as sealed; and medicine, which will seldom save, should be studied chiefly as a means of lessening the last agonies. In this light alone can I recommend the practice I am in the habit of adopting. When under it any animal recovers, the result is rather to be attributed to the powers of nature than to be ascribed to the virtues of medicine, which by the frequency of its failure shows that its potency is subservient to many circumstances. Blaine and Youatt, both by the terms in which they speak of, and the directions they lay down for, the cure of distemper fits, evidently did not understand

the pathology of this form of the disease. These authors seem to argue that the fits are a separate disease, and not the symptoms only of an existing disorder. The treatment they order is depletive, whereas the attacks appearing only after the distemper has exhausted the strength, a little reflection convinces us the fits are the results of weakness. Their views are mistaken, and their remedies are prejudicial. They speak of distemper being sometimes ushered in by a fit, and their language implies that the convulsions, sometimes seen at the first period, are identical with those witnessed only during the latest stages. This is not the fact. A fit may be observed before the appearance of the distemper; and anything which, like a fit, shows the system to be deranged, may predispose the animal to be affected; but, between fits of any kind, and the termination of the affection in relation to distemper, there is no reason to imagine there is an absolute connexion. The true distemper fit is never observed early—at least I have never beheld it—before the expiration of the third week; and I am happy in being able to add, that when my directions have from the first been followed, I have never known an instance in which the fits have started up. Therefore, if seldom to be cured, I have cause to think they may be generally prevented.

"When the symptoms denote the probable appearance of fits, although the appetite should be craving, the food must be light and spare. At the Veterinary College, the pupils are taught that the increase of the appetite at this particular period, is a benevolent provision to strengthen the body for the approaching trial. Nature, foreseeing the struggle her creature is forced to undergo—the teacher used to say—gives a desire for food, that the body may have vigour to endure it; and the young gentlemen are advised, therefore, to gratify the cravings of the dog. This is sad nonsense, which pretends to comprehend those motives that are far beyond mortal recognition. We cannot read the intentions of every human mind, and it displays presumption when we pretend to understand the designs of Providence. There are subjects upon which prudence would enjoin silence. The voracity is excessive, but it is a morbid prompting. When the fits are threatened, the stomach is either acutely inflamed, or in places actually sore, the cuticle being removed, and the surface raw. After a full meal at such a period a fit may follow, or continuous cries may evidence the pain which it inflicts. Nothing solid should be allowed; the strongest animal jelly, in which arrowroot or ground rice is mixed, must constitute the diet; and this must be perfectly cold before the dog is permitted to touch it: the quantity may be large, but the amount given at one time must be small. A little pup should have the essence of at least a pound of beef in the course of the day, and a Newfoundland or mastiff would require eight times that weight of nutriment: this should be given little by little, a portion every hour, and nothing more save water must be placed within the animal's reach. The bed must not be hay or straw, nor must any wooden utensil be at hand: for there is a disposition to eat such things. A strong canvas bag, lightly filled with sweet hay, answers the purpose best; but if the slightest inclination to gnaw is observed, a bare floor is preferable. The muzzle does not answer, for it irritates the temper which sickness has rendered sensitive. Therefore, no restraint, or as little as is consonant with the circumstances, must be enforced. Emetics are not indicated. Could we know with certainty that the stomach was loaded with foreign matters necessity would oblige their use; but there can be no knowledge of this fact—and of themselves these agents are at this time most injurious. Purgatives are poisons now. There is always apparent constipation; but it is confined only to the posterior intestine, and is only mechanical. Diarrhœa is certain to commence when the rectum is unloaded, and nothing likely to irritate the intestines is admissible. The fluid food will have all the aperient effect that can be desired. As to setons, they are useless during the active stage; and if continued after it has passed, they annoy and weaken the poor patient; in fact, nothing must be done which has not hitherto been proposed.

"When signs indicative of approaching fits are remarked, small doses of mercury and ipecacuanha should be administered.

Grey powder, 5 grains to 1 scruple.
Ipecacuanha, 1 to 4 grains.

Give the above thrice daily; but if it produces sickness, let the quantity at the next dose be one-half.

Tincture of hyoscyamus, 1 part.
Sulphuric ether, 3 parts.

"This should be mixed with cold soup, ten ounces of which should be mingled with one ounce of the medicine. Give an ounce every hour to a small dog, and four ounces to the largest animal. A full enema of the solution of soap should be thrown up; and the

rectum having been emptied, an ounce or four ounces of the sulphuric ether and hyoscyamus mixture ought to be injected every hour. Over the anterior part of the forehead, from one to four leeches may be applied. To do this the hair must be cut close, and the part shaved; then, with a pair of scissors, the skin must be snipped through, and the leech put to the wound: after tasting the blood it will take hold. To the nape of the neck a small blister may be applied; and if it rises the hope will mount with it. A blister is altogether preferable to a seton; the one acts as a derivative, by drawing the blood immediately to the surface without producing absolute inflammation, which the other as a foreign body violently excites. The effects of vesicants are speedy, those of setons are remote; and I have seen fearful spectacles induced by their employment. With dogs setons are never safe; for these animals, with their teeth or claws, are nearly certain to tear them out. In cases of fits, if the seton causes much discharge, it is debilitating, and also offensive to the dog, and the ends of the tape are to him an incessant annoyance. It is not my practice to employ setons, being convinced that those agents are not beneficial to the canine race; but to blisters, which on these animals are seldom used, I have little objection. With the ammonia and cantharides, turpentine and mustard, we have so much variety, both as to strength and speed of action, that we can suit the remedy to the circumstances, which, in the instance of a creature so sensitive and irritable as the dog, is of all importance. The blister which I employ in distemper fits is composed of equal parts of liquor ammoniæ and camphorated spirits. I saturate a piece of sponge or pilinewith this compound; and having removed the hair, I apply it to the nape of the neck, where it is retained from 5 to 15 minutes, according to the effect it appears to produce. Great relief is often obtained by this practice; and, should it be necessary, I sometimes repeat the application a little lower down towards the shoulder, but never on the same place; for even though no apparent rubefaction may be discerned, the deeper seated structures are apt to be affected, and should the animal survive, serious sloughing may follow, if the blister be repeated too quickly on one part.

"The directions given above apply to that stage when the eye and other symptoms indicate the approach of fits, or when the champing has commenced. The tonic pills and liquor arsenicalis may also then be continued; but when the fits have positively occurred, other measures must be adopted. If colic should attack the animal, laudanum must be administered, and in small but repeated doses until the pain is dismissed. Opium is of itself objectionable, but the drug does less injury than does the suffering, and therefore we choose between the two evils. From 5 to 20 drops of the tincture, combined with ½ to 2 drachms of sulphuric ether, may be given every half hour during the paroxysm; and either the dose diminished or the intervals increased as the agony lessens, the animal being at the same time constantly watched. The ethereal enemas should be simultaneously exhibited, and repeated every half hour. When a fit occurs nothing should during its existence be given by the mouth, except with the stomach-pump, or by means of a large-sized catheter introduced into the pharynx. Unless this precaution be taken, there is much danger of the fluid being carried into the lungs. Ether by injection, however, is of every service, and where the proper instruments are at hand, it ought also to be given by the mouth. The doses have been described. To the liquor arsenicalis, from ½ to 2 drops of the tincture of aconite may with every dose be blended; and the solution of the chloride of lime should be mingled with the injections, as ordered for diarrhœa, which if not present is certain to be near at hand. The following may also be exhibited, either as a soft mass or as a fluid mixture:—

Chlorate of potash, 1 to 4 grains.
Aromatic powder, ½ to 2 drachms.

Or,

Carbonate of ammonia, 5 grains to a scruple.
Chalk, 1 to 4 scruples.
Aromatic confection, 1 to 4 scruples.

"Either of the above may be tried every third hour, but on no account ought the warm bath to be used. An embrocation, as directed for rheumatism, may be employed to the feet and legs, and warm turpentine may, as described in diarrhœa, be used to the abdomen. Cold or evaporating lotions to the head are of service, but unless they can be continuously applied, they do harm. Their action must be prolonged, and kept up night and day, or they had better not be employed, as the reaction they provoke is excessive. Cold water dashed upon the head during the fit does no good, but rather seems to produce evil; the shock often aggravates the convulsions, and the wet, which soon dries upon the skull, is followed

by a marked increase of temperature; while, remaining upon other parts, and chilling these, it drives the blood to the head.

"From the foregoing, it will have been seen that my efforts are chiefly directed to strengthening the system, and, so far as possible, avoiding anything that might add to the irritability. On these principles I have sometimes succeeded, and most often when the fits have been caused by some foreign substance in the stomach or intestines. When such is the case, the fits are mostly short and frequent. One dog that had one of these attacks, which did not last above forty seconds every five minutes, and was very noisy, lived in pain for two days, and then passed a peach stone, from which movement it began to recover, and is now alive. In another case a nail was vomited, and the animal from that time commenced improving. In this instance an emetic would have been of benefit; but such occurrences are rare, and the emetic does not, even when required, do the same good as is produced by the natural ejection of the offending agent. Perhaps, where nature possesses the strength to cast off the cause of the distress, there is more power indicated; but after an emetic, I have known a dog fall upon its side, and never rise again.

"During fits the dog should be confined, to prevent its exhausting itself by wandering about. A large basket is best suited for this purpose. It should be so large as not to incommode the animal, and high enough to allow the dog to stand up without hitting his head. A box is too close; and besides the objection it presents with regard to air, it does not allow the liquids ejected to drain off.

"For the pustular eruption peculiar to distemper, I apply no remedy. When the pustules are matured I open them, but I am not certain any great benefits result from this practice. If the disorder terminates favourably the symptom disappears; and, beyond giving a little additional food, perhaps allowing one meal of meat, from 1 ounce to 6 ounces, I positively do nothing in these cases. I must confess I do not understand this eruption; and in medicine, if you are not certain what you should do, it is always safest to do nothing.

"The disposition to eat or gnaw any part of the body must be counteracted by mechanical measures. The limb or tail must be encased with leather or gutta percha. No application containing aloes, or any drug the dog distastes, will be of any avail. When the flesh is not sensitive, the palate is not nice, and the dog will eat away in spite of any seasoning. A mechanical obstruction is the only check that can be depended upon. A muzzle must be employed, if nothing else can be used; but generally a leather boot, or gutta percha case moulded to the part, has answered admirably. To the immediate place I apply a piece of wet lint, over which is put some oil silk, and the rag is kept constantly moist. The dose of the liquor arsenicalis is increased by one-fourth or one-half, and in a few days the morbid desire to injure itself ceases. After this the dressings are continued; and only when the recovery is perfect do I attempt to operate, no matter how serious may be the wound, or how terrible, short of mortifying, it may appear.

"Tumours must be treated upon general principles; and only regarded as reasons for supporting the strength. They require no special directions at this place, but the reader is referred to that portion of the work in which they are dwelt upon.

"To the genital organs of the male, when the discharge is abundant, a wash, consisting of a drachm of the solution of the chloride of zinc to an ounce of water, gently applied once or twice daily, is all that will be necessary. The paralysis of the bladder requires immediate attention. In the last stage, when exhaustion sets in, it is nearly always paralysed. Sometimes the retention of urine constitutes the leading and most serious symptom; and after the water has been once drawn off, the bladder may regain its tone, another operation rarely being needed. A professional friend, formerly my pupil, brought to me a dog which exhibited symptoms he could not interpret; it was in the advanced stage of distemper. It was disinclined to move, and appeared almost as if its hind-legs were partially paralysed. I detected the bladder was distended, and though the animal did not weigh more than 8lb., 9½oz. of urine were taken away by means of the catheter. From that time it improved, and is now well. There can be no doubt that a few hours' delay in that case would have sealed the fate of the dog. For the manner of introducing the catheter, and the way to discover when the urine is retained, the reader is referred to that part of the present work which treats especially on this subject.

"Paralysis and chorea will be here dismissed with a like remark. To those diseases the reader must turn for their treatment; but I must here state, that before any measures specially intended to

relieve either are adopted, the original disease should be first subdued, as, in many cases, with the last the chorea will disappear: while in some the twitching will remain through life. All that may be attempted during the existence of distemper, will consist in the addition of from a quarter of a grain to a grain and a half of powdered nux vomica to the tonic pills: and, in severe paralysis, the use of a little friction, with a mild embrocation to the loins.

"The treatment during convalescence is by no means to be despised, for here we have to restore the strength, and, while we do so, to guard against a relapse. One circumstance must not be lost sight of—namely, that nature is, after the disease has spent its violence, always anxious to repair the damage it may have inflicted. Bearing this in mind, much of our labour will be lightened, and more than ever shall we be satisfied to play second in the business. The less we do the better; but, nevertheless, there remains something which will not let us remain perfectly idle.

"Never, after danger has seemingly passed, permit the animal to return all at once to flesh food. For some time after all signs of the disease have entirely disappeared, let vegetables form a part, and a good part of the diet. Do not let the animal gorge itself. However lively it may seem to be, and however eager may be its hunger, let the quantity be proportioned to the requirements independent of the voracity. Above all, do not tempt and coax the dog to eat, under the foolish idea that the body will strengthen or fatten because a great deal is taken into the stomach. We are not nourished by what we swallow, but by that which we digest; and too much, by distending the stomach and loading the intestines, retards the natural powers of appropriation; just as a man may be prevented from walking by a weight, which nevertheless, he may be able to support. Give enough, but divide it into at least three meals—four or five will be better—and let the animal have them at stated periods, taking care that it never at one time has as much as it can eat; and by degrees return to the ordinary mode of feeding.

"The fainting fits create great alarm, but if properly treated, they are very trivial affairs. An ethereal enema, and a dose or two of the medicine, will generally restore the animal. No other physic is needed, but greater attention to the feeding is required. Excessive exercise will cause them, and the want of exercise will also bring them on. The open air is of every service, and will do more for the perfect recovery than almost anything else. When the scarfskin peels off, a cold bath with plenty of friction, and a walk afterwards, is frequently highly beneficial; but there are dogs with which it does not agree, and, consequently, the action must be watched. Never persevere with anything that seems to be injurious. If the mange breaks out, a simple dressing, as directed for that disease, will remove it, no internal remedies being in such case required.

"I cannot close my account of distemper without cautioning the reader against the too long use of quinine. It is most valuable medicine, and, as a general rule, no less safe than useful. I do not know that it can act as a poison, or destroy the life; but it can produce evils hardly less, and more difficult to cure than those it was employed to eradicate. The most certain and most potent febrifuge, and the most active tonic, it can also induce blindness and deafness; and by the too long or too large employment of quinine a fever is induced, which hangs upon the dog, and keeps him thin for many a month. Therefore, when the more violent stages of the disease have been conquered, it should no longer be employed. Other tonics will then do quite as well, and a change of medicine often performs that which no one, if persevered with, will accomplish.

"All writers, when treating of distemper, speak of worms, and give directions for their removal during the existence of the disease. I know they are too often present, and I am afraid they too often aggravate the symptoms; but it is no easy matter to judge precisely when they do or when they do not exist. The remedies most to be depended upon for their destruction, are not such as can be beneficial to the animal labouring under this disorder; but, on the other hand, the tonic course of treatment I propose is very likely to be destructive to the worms. Therefore, rather than risk the possibility of doing harm, I rely upon the tonics, and have no reason to repent the confidence evinced in this particular.

"The treatment of distemper consists in avoiding all and everything which can debilitate: it is simply strengthening by medicine, aided by good nursing. It is neither mysterious nor complex, but is both clear and simple when once understood. It was ignorance alone which induced men to resort to filth and cruelty for the relief of that which is not difficult to cure. In animals, I am certain, kindness is 99 parts of what

passes for wisdom; and in man I do not think the proportion is much less, for how often does the mother's love preserve the life which science abandons! To dogs we may be a little experimental; and with these creatures, therefore, there is no objection to trying the effects of those gentler feelings which the very philosophical sneer at as the indications of weakness. When I am called to see a dog, if there be a lady for its nurse, I am always more certain as to the result, for the medicines I send them seem to have twice the effect."—*Mayhew on the Dog.*

Upon other Remedies and Preventions no reliance whatever is to be placed, whether they are Mr. Temple's castor oil treatment—which is as old as the hills—or vaccination, or any of the numberless quack cures which have been promulgated at various times. By preserving the health in many cases distemper may be averted entirely, or, if not wholly, yet the attack is rendered mild; and so far castor oil as a means of preserving health may be efficacious, and in the early or incipient stage it is useful in a single dose, or even, perhaps, if repeated twice during the first week or ten days. But in the true typhoid stage, castor oil is highly objectionable, unless the bowels are costive; and if given with diarrhœa it would aggravate the disease tenfold, especially if without laudanum, which might serve to guard against its injurious tendencies. The fact is, that distemper cannot be treated upon any one plan, but must be managed according to the nature and stage of its development; and he will succeed the best who so regulates his treatment.

Sect. 4.—Rheumatic Fever.

Rheumatic Fever, or acute rheumatism, is a very common disease in the dog, though not very generally attended to or described by writers on their complaints. It arises from exposure to cold, when the dog has been overfed, and rendered unfit to bear its attacks upon a system full of inflammatory matter. The pampered pet is the most liable; but greyhounds and pointers which are highly fed, and sometimes not sufficiently exercised, are also very liable to its approaches. In the dog, rheumatism is either confined to the muscular system or to the coverings of the spinal marrow, which sometimes take on the rheumatic inflammation to such an extent as to cause paralysis of the hind-legs. General rheumatic fever, or acute rheumatism, is characterized by intense soreness of the surface, so that the dog shrinks on the approach of the hand from fear of being touched. He will almost always retire to some corner, and refuse to leave it on being called by his owner; and if brought out by force, he will stand and snarl at every hand, just as in the sketch at the head of this article, which is borrowed from Mr. Mayhew; who, however, has given rather a meagre account of rheumatism in general, though a very graphic one of the form peculiar to the gorged lady's pet. When the rheumatism is confined to the fore-quarter, it is called

Kennel Lameness, or Chest-Founder, which is the great bugbear of the foxhound kennel, and is produced in them from cold, after the extraordinary fatigues which they undergo. When an animal is worn down by long-continued exhaustion, and is then placed to lie in a damp or cold kennel, he is almost sure to contract rheumatism, especially if he is fed upon stimulating food which most hounds are, in order to enable them to bear their labours. Thus, over work and no work at all, alike engender the disease; but in a very opposite state, the former producing an active fever of a rheumatic character, whilst the latter brings on a more chronic and low kind, attended with great muscular stiffness, but not with high fever.

Paralysis, or loss of power in the hinder extremities (improperly so called), is another result of the low kind of rheumatic fever which comes on from long-continued high feeding followed by cold; and it is exactly of the same character as chest-founder, but confined to the hinder limbs instead of the shoulders. I have said that it is improperly called paralysis, and my reason for this is, that it is not at all analogous to other forms of paralysis, though there is temporary loss of power; but so there is in all rheumatic conditions; yet who would say that the poor rheumatic subject, who can neither move hand nor foot, is suffering from paralysis? Assuredly no one who understands the nomenclature

of disease, because the essence of paralysis is considered to be loss of power *from disease in the nervous system*; hence, when the loss is dependent upon want of tone in the muscles affected, it is clearly a misnomer to apply the term *paralysis*.

SUMMARY OF RHEUMATIC AFFECTIONS.—Under the head, therefore, of these affections are included—first, general rheumatic fever, attended with marked general soreness and great constitutional disturbance; secondly, rheumatism of the fore-quarter, called kennel-lameness, or chest founder; and, thirdly, rheumatism of the hind-quarter, commonly, but improperly, called paralysis of the hind extremities; both attended by pain and loss of power, which latter is chiefly occasioned by fear of pain, in the quarter attacked.

THE TREATMENT of general rheumatism is partly constitutional and partly local. Begin by giving a smart purge, according to the condition and size of the dog, and usually adding some calomel to it, for directions to do which see Aperients in chapter on drugs. After this has acted, give the following pill, or half of it, according to the size of the dog, three times a day, until the pain has abated:—

Calomel, and
Powdered opium, of each, 1 grain.
Colchicum powder, 2 grains.
Syrup to form a pill.

When the pain is gone, if the bowels are not very relaxed, give a dose of castor oil; and during the whole continuance of the pain use the warm anodyne embrocation, No. 1 of Embrocations. This will act still better if the dog is first put into a hot bath at 100 degrees of Fahrenheit, then dried well by a good fire, and afterwards the liniment rubbed into the parts which are most full of pain. For the more chronic forms, called kennel-lameness and paralysis of the hind-quarter, the warm-bath and liniment may be used with the aperients, as above; but instead of the calomel and opium, give one or two tablespoonfuls of the following mixture twice a day:—

Iodide of potassium, 1 drachm.
Sweet spirits of nitre, 2 drachms.
Nitre, 1½ drachm.
Camphor mixture, 6 ounces. Mix.

THE DIET in each case should be low, all animal food should be taken away, and the dog fed upon meal or rice, according to the state of the bowels. It is a disease in great measure the result of too stimulating a food, and a withdrawal of meat will go far towards a cure, which, however, is seldom of long continuance when the disease has become chronic. Chest-founder is especially obstinate, and is seldom entirely recovered from in those dogs which are most exposed to its attacks, and most injured by them, namely, fox-hounds, harriers, and greyhounds.

SECT. 5.—SMALL-POX.

SMALL-POX is described by Mr. Youatt as attacking the dog, but I have never seen a case, or known any one who has. I must therefore refer my readers to Mr. Youatt's book for particulars, if they should have any doubt about the matter. Vaccination undoubtedly succeeds in the dog; and, reasoning from analogy, we should therefore expect small-pox to take a similar course and to attack the dog just as it attacks the human subject. If it does, however, it is extremely rare; and it is therefore scarcely worth while to take up space in its description, in a book intended rather for the information of the sportsman than for the scientific inquirer.

SECT. 6.—SYMPATHETIC FEVER.

BY SYMPATHETIC FEVER is to be understood, a fever which comes on as a consequence or precursor of some local inflammation or injury, causing great mischief to the body. Thus we have prior to the actual appearance of inflammation of the lungs, a shivering, followed by increased action of the heart, with heat and generally diminished secretions; but this fever is not attended with the peculiar effects of distemper fever, and the dog suffering under it has strength enough to get about after many days of its continuance. In severe injuries there is the same kind of fever following them after the interval of a few hours; and here the action of the heart and the heat of surface are generally greater than in other fevers, except when the shock has been too great to allow of reaction.

THE TREATMENT of these secondary or sympathetic fevers is always subordinate to that of the inflammation or injury which caused them; and therefore it need not be entered upon here, since whatever relieves the cause will allay the effect.

CHAPTER II.

INFLAMMATIONS.

THE MAD DOG.

SECT. 1.—OF THE BRAIN AND NERVOUS SYSTEM.

RABIES, or canine madness, is, in all human probability, an inflammatory condition of the large nervous masses contained in the skull and spinal column. It is difficult to prove this, because our knowledge of the effects produced upon nervous matter by disease is very limited, and therefore we can neither say that in rabies certain effects are produced, inasmuch as the eye cannot detect them, nor can we affirm, because we do not see any change, that there is none produced; but, reasoning analogically, there is no reason to doubt that the disease is essentially one of the nervous system; and, as all other structures when diseased receive and retain the impress of that state, and in rabies no such change in any of them is remarked on dissection, it is a strong argument in favour of placing the seat of it in a set of organs which we know are usually attacked without leaving any sign.

THE SYMPTOMS of canine madness are very much the same in all cases, though varying somewhat in their manifestations. The first and most marked is a change of disposition and temper, so that the naturally good tempered dog becomes morose and snappish, and those which are usually fondling in their manners are shy and retiring. Sometimes the change is even so great that the usually shy dog becomes bold; but this is not nearly so common as the opposite extreme. Generally the mad dog shows a warning of his coming disease by this change of manner for several days before it breaks out with severity; though I have seen one well-marked attack which began and ended in death within forty-eight hours. This was in a Newfoundland dog, which I bought in perfect health to all appearance, and shut up in order to accustom him to his new master for a week or ten days, feeding him myself at the end of the first twenty-four hours, and observing no change from the usual habits of a strange dog. On the evening of the tenth day, however, after he had appeared in very good spirits, and eaten his dinner from my hand in the morning, he began to show signs of bad temper, and exhibited that peculiar snapping at imaginary objects well described by Mr. Youatt. On the next day he was in a highly rabid state, and died in the night after. When these premonitory symptoms have lasted an uncertain time, varying from twenty-four hours to three or four days, the dog begins to attack imaginary objects, and if real ones are presented to him he will tear them savagely to pieces. He is now exceedingly irritable, and wanders restlessly from place to place, having apparently a strong desire to do something, but not caring what that is, so that he is not quiet. If he is confined by a chain he will try and gnaw it to pieces; and if restrained by a door within narrow bounds he vents his fury upon that. In this state he knows not the sensation of ordinary pain, but will bite a red-hot poker presented to him exactly as if it were a cold one. As the disease advances water is eagerly swallowed, but in his hurry the dog will generally upset his stock of that fluid; and hence he is often

thought to be unable to swallow, whilst all the time he is burnt up with thirst, and will constantly imbibe it, if he can do so without knocking over the vessel containing it in his haste. The howls and groans are generally peculiarly deep and melancholy, and by them a mad dog *in confinement* may often be recognised, though sometimes the dog is quite silent, and in that state is said, in common language, to be "dumb mad." When at large, however, no warning noise is made, and the dog seems only determined on a straightforward trot, as exhibited in the very characteristic woodcut at the head of this article, drawn by Mr. Mayhew. If he is interfered with in any way, and more especially if he is struck, he will wreak his vengeance on the offender; but he seldom goes out of his way to do a mischief, and will often pass through crowds of people without biting them; even if pursued and annoyed by cries and hootings, he takes no notice until he is injured, and then more frequently endeavours to escape into solitude, than turns upon his assailants. This desire to wander appears to me an instinctive attempt to get rid of the disease by muscular action, and if indulged in quietly, I am inclined to think that there might be some chance of a recovery; but as it would not be wise to run the risk, the experiment can never be tried. The disease is evidently caused by some poison, and, as in other cases, poisons are got rid of by some extraordinary secretion, so I am led to believe that the wearing down of the muscular, and with it, the nervous system, by long-continued fatigue, is the natural cure of the disease. If I had the disease myself, or had a case in which I could try the experiment with a chance of carrying out the plan, I would certainly see what could be done; and, as there is no other plan which offers the slightest chance of cure, it would at all events be as good as any other. If, in the early stage, an individual would start off, accompanied by an attendant on horseback, or by a relay of attendants, and walk till he could walk no longer, and then lie down to sleep, to be followed by a repetition of the walking until sleep was again produced, I believe that *some* chance of a cure might be afforded; but it would require great courage to carry the plan out, and very careful superintendence to encourage the patient during its progress. There are cases on record in which poor patients have travelled many miles to the sea, in order to be dipped, and have been said to have been cured; whether from the dipping, or from the walking, it is doubtful, or whether even cured at all; but it is possible, that, if my view is correct, the long walk, prompted by a prospect of a cure at the end, may really have acted beneficially, and the disease, which invariably proves fatal when treated in a confined room, may have yielded to the fatigue incurred in reaching the seashore. As I said before, the experiment is worth trying; and I should much like to see it properly carried out.

PREVENTIVE MEASURES are the only ones of service in this complaint, which, if fully established, has hitherto been uniformly fatal in all animals attacked by it, including man himself. When a bite has taken place, the best plan is to destroy the animal at once; for though excision *may most probably* prevent the occurrence of the disease, no risk should be run. In man, immediate excision, followed by caustic, should always be had recourse to, previously taking care to suck the wound, *with a mouth free from ulcers*, to discover which put a little salt in the mouth, when it will by its smarting show their existence, if there are any. It is supposed that confinement is the cause of the disease; and I am strongly inclined to believe that such is the case, as in those countries where dogs are suffered to be at large, rabies is an unknown disease.

TETANUS is a disease very similar in its nature to rabies, but manifesting itself in spasms of the muscles, rather than in general irritability of them. I have, however, only seen one case in the dog, which was the result of a severe injury, and it is said to be very rare indeed. No remedy seems to exert any power over it any more than over rabies itself. Chloroform, by inhalation, might be tried; but I can scarcely expect any good result in the dog, when its effects on the human being are so far from satisfactory.

TURNSIDE appears to be an inflammation of one side of the brain only, producing a tendency to turn round in a circle, like "the gidd" of sheep. It is rather a rare disease, and is easily recognised by the above characteristic sign. There is no apparent constitutional disturbance, and the dog eats much as usual; but the moment he attempts to walk he begins to turn round. In a case which I saw some years ago, the dog recovered by the use of a seton, with purgatives, followed by nitrate of silver, given three times a day in a pill, as follows:—

Nitrate of silver, carefully powdered, 2 grains.
Crumb of bread, enough to make 6 pills.

Sect. 2.—Inflammation of the Organs of Sense.

The Eye is the seat of various inflammations, coming on from causes totally distinct from one another. Thus, in distemper, there is generally an inflammation, with discharge, and sometimes the inexperienced attendant will fear that the eye will be lost; but if the dog recovers his strength, the eye, in almost all cases, is restored also, and especially if it is not interfered with. If, on the other hand, an attempt is made to apply remedies, with the intention of saving the sight, the effect is the reverse of good, and the disease is aggravated so far as often to cause the ulceration to extend through the cornea, and destroy the eye. In Ordinary Ophthalmia, arising from cold, there is considerable injection of the vessels of the white of the eye, which become red and swollen. In this kind, if an ulcer appears, it will often eat through the cornea, and the eye will be lost by a discharge of its contents. Sometimes, again, in a weakly young dog, there is a low kind of inflammation, with great intolerance of light, and a discharge of watery fluid instead of thick pus. This is *strumous* ophthalmia, and requires a very different treatment. A third kind of ophthalmia, the *rheumatic*, is unattended by discharge; the vessels are deeply gorged, and the pain great. This, however, is a disease peculiar to old dogs, and from that cause may generally be distinguished from the strumous, and from the ordinary ophthalmia, by the absence of discharge. There is also an inflammation, the result of accident, which sometimes destroys the eye rapidly, and requires energetic treatment. The Treatment of ordinary Ophthalmia should depend upon its severity, which, if great, will demand bleeding and strong purgatives, followed by a grain of calomel and opium two or three times a day. When an ulcer appears, a wash should be used daily, consisting of the nitrate of silver in solution, or the sulphate of zinc, according to the formulas given under Eye-washes. In the strumous kind tonics are necessary, consisting of 1 grain of quinine and 3 of hemlock, in a pill, three times a day. When the rheumatic form shows itself, a brisk purge must first be given, and then the iodide of potassium should be administered according to the formula at page 699. If this does not succeed, a seton may be inserted in the neck.

Cataract consists in an opacity of the crystalline lens, for which nothing can be done; for although it might be removed by operation, the dog would still be unable to see for want of the glasses which in the human subject supply its place. It may easily be recognised by the clear white pupil, which takes the place of the ordinary dark centre of the organ.

Dropsy of the eye is only the result of chronic inflammation, and little can be done to alleviate it, as the eye is almost always destroyed before the disease proceeds so far as to cause dropsy.

Amaurosis, or paralysis of the nerve, is generally a sign of disease of the brain, either produced by injury or from overfeeding. The dog is more or less blind without the eye showing any change in form, and even at first being preternaturally bright. But if the dog is watched, he is seen to be blind by his striking his head against objects in his way, and by his timid mode of moving about. If the disease is recent, the dog may possibly be cured by smart purgatives and a seton; but, in most cases, very little benefit is experienced from these remedies.

Deafness is often congenital, and when such is the case, no remedies are of any avail. If it comes on after distemper, it will generally disappear, or if it occurs from ordinary cold. Whenever it is obstinately persistent for more than a fortnight, a seton in the neck is the best remedy, kept in for some weeks.

Canker of the ear is rather an eruption than a disease of the ear; but as this is generally confined to that organ, it may be as well to allude to it in this place. It is usually described as of two kinds, an external and an internal canker; but both are caused by an eruption, which first makes its appearance in the interior and then extends to the outer ear, in consequence partly of the irritation of the discharge, and partly of the constant shaking of the head, caused by the itching produced by the eruption. It is always the result of high feeding and confinement, which produce an itchy and watery discharge on the body generally, and in the ear in particular; and the discharge itself is of that character that it excoriates the adjacent parts, and thus propagates the eruption. Dogs are rendered half mad by the constant irritation, and go on shaking their heads all day and half the night in their attempts to mitigate the evil. The ends of the ears almost always suffer the most, but little attention need be paid to these parts, because if the internal ear is cured, the external rapidly gets well; never-

theless, it is a very good plan to apply a cap, as proposed by Mr. Mayhew; not to

cure the external ear, but to make the dog keep his head quiet; for he will not shake it if he finds no benefit, in consequence of the ears being confined by the cap. Pointers and setters are peculiarly liable to the disease, because they are almost always confined to their kennels during the months in which their services in the field are not required. The TREATMENT consists in the use of a lotion of nitrate of silver, 10 grains to the ounce of water, poured into the ears, after muzzling the dog; and of purgatives two or three times a week for two or three weeks, with oatmeal porridge, flavoured only with a little weak broth, no flesh whatever, and green vegetables, well boiled, mixed in twice or thrice a week. If this does not effect a cure in a few weeks, give liquor arsenicalis three times a day *with the food*, in a dose varying according to the size, from 1 to 7 drops. This should be continued for some time, but it must be carefully watched, as its effects are sometimes serious. It produces great redness of the eyes, and loss of appetite after a time; and when these symptoms appear the dose is immediately to be reduced one-half, but not discontinued altogether, as they only mark the proper effect which was desired; but if fits come on it must be left off altogether.

BLAIN is a vesicular eruption occurring in the mouth, but I have never yet seen a case. Mr. Youatt advises the application of a solution of chloride of lime after opening the vesicles, and I have little doubt that this is the appropriate remedy.

THE TEETH are constantly suffering from a collection of tartar, the best remedy for which is a free supply of bones to the dog; if he has which he will require none of the scaling instruments or tooth-brushes which Mr. Mayhew uses so dexterously.

SECT. 8.—INFLAMMATION OF THE RESPIRATORY ORGANS.

THE LARYNX, situated at the top of the windpipe, is not so often the seat of acute inflammation as in man and the horse, but chronic laryngitis is by no means unfrequent in the dog. Both are recognised by the hoarseness of the cough and bark, and by a rough sound in breathing, sometimes very audible at a short distance; and accompanied by a certain degree of increased quickness in respiration, varying according to the intensity of the attack. The TREATMENT will vary according to the acuteness and severity of the disease; and if this is urgent, bleeding and emetics will be necessary, followed by small doses of calomel, digitalis, and nitre, as prescribed at page 701. If, on the other hand, the more common form of chronic laryngitis is developed, remedies of a different nature must be adopted. A seton should be inserted in the throat, and a good discharge from it promoted by the application of blistering ointment to the tape. Iodide of potassium may generally be given in 1, 2, or 3-grain doses, with 5 or 6 drops of ipecacuanha wine, and 5 grains of nitre three times a day, mixed in a little water. When this has been given for a short time without benefit, any of the warm expectorants given at page 700 may be tried; and sometimes one, sometimes another, will be of service. The dog, during the continuance of the disease, must be kept rather low than otherwise, but not rigidly starved, as is necessary in some inflammations of the respiratory organs, and should have a fair allowance of walking exercise.

ATTITUDE IN PNEUMONIA.

INFLAMMATION OF THE LUNGS is of three kinds, depending upon the particular membrane which is the seat of mischief, but most commonly they run one into the other,

and are scarcely to be accurately distinguished in practice. All are characterised by fever, with quickened respiration and pulse; generally there is cough, but not always; and in all cases there is great anxiety depicted in the countenance. The following series of symptoms mark the difference between the three forms of inflammation, whether acute or chronic. It may be mentioned, that pleurisy is in theory confined to the pleura, or serous membrane covering the lungs; pneumonia, to the cellular membrane, in which the blood-vessels and air-tubes ramify; while bronchitis has for its seat the mucous lining of the air-tubes and cells:—

Symptoms of Acute Pleurisy.	Symptoms of Acute Pneumonia.	Symptoms of Acute Bronchitis.
Commences with shivering, with slight spasms and sweats. Inspiration short, unequal, and interrupted, as from pain; expiration full; air expired not hotter than usual. Slight cough only, and without expectoration. Pulse quick, small, and wiry. The Stethoscope gives the usual respiratory murmur, accompanied with a rubbing sound in the parts attached. Percussion elicits at first little or no deviation from the natural sound; after effusion has taken place there is a dull sound. Disease Terminates in a gradual disappearance of the symptoms, or in the effusion of fluid (pus or lymph).	Commences with shivering, without spasms. Inspiration full; expiration short; air expired hot. Nostrils red in the interior. Cough generally violent, with expectoration of rusty mucus, not very profuse. Pulse quick, full, and soft. The Stethoscope gives a crackling sound in the early stage, followed by increased dulness, and, finally, by crepitating wheezing. Percussion gives after the first stage a dull return to the finger. Disease Terminates in resolution, with cessation of the bad symptoms; or in solidification, called hepatization; or sometimes in abscess of the lung.	Commences also with shivering, followed by constant hard cough. Air expired warm, but not so hot as in pneumonia. Inspiration and expiration both full. Cough after a time attended with expectoration of mucus, at first sticky, soon becoming frothy, and, finally, profuse and frothy. Pulse full and hard. The Stethoscope gives a soap-bubble kind of sound, with wheezing. Percussion elicits nothing of consequence. Disease Terminates either by resolution, or by extension to the cellular membrane, constituting pneumonia in combination with bronchitis.
Symptoms of Chronic Pleurisy.	**Symptoms of Chronic Pneumonia.**	**Symptoms of Chronic Bronchitis.**
Inspiration always deep; expiration short. Cough dry, sometimes with expectoration; frequently changing from dry to moist cough. Stethoscope indicates an absence of respiratory murmur in the lower parts of the chest, and sometimes a gurgling noise. Strong respiratory murmur in the superior portion of the lung, very often of one side only. Terminates either by cure or by effusion and infiltration of the whole of the cel-	Inspiration and expiration both difficult and interrupted. Cough present, but not frequent, and evidently avoided and suppressed. Expectoration rarely profuse; sometimes absent. Stethoscope indicates hepatization, from the entire absence of murmur. Percussion also gives a very dull return to the fingers. Sometimes there is a mucous rattle. Terminates sometimes in resolution; or, if fatal, in a	Respiration free, but quicker than natural. Cough constant and intense, evidently not restrained by fear of pain: sometimes to such an extent as to cause soreness of the muscles of the belly. Stethoscope gives a rattling sound, as of soap-bubbles, with a great deal of wheezing. Percussion gives no result different to a state of health. Terminates in resolution; or, if fatal, in an accumula-

Symptoms of Chronic Pleurisy.	Symptoms of Chronic Pneumonia.	Symptoms of Chronic Bronchitis.
lular membrane of the chest and belly, and sometimes of the scrotum and thighs: at last the serum in the thorax presses upon the lungs till it causes suffocation.	discharge from the nostrils of purulent matter, coloured with blood, and often very fetid. The animal never lies down at length, but sits up, as shown in the woodcut at the head of this article.	tion of mucus, and consequent suffocation. Until very near suffocation the dog will almost always lie down; whereas the contrary is the case in pneumonia.

The Treatment will a good deal depend upon which of the above three conditions is present, though not to such an extent as to be of very great consequence. In pleurisy and pneumonia, bleeding will almost always be required in the early stage, but not in bronchitis, which seldom is benefited by loss of blood. Blisters, again, relieve pneumonia and bronchitis, but are actually prejudicial in pleurisy, where the close relation between the vessels of the pleura lining the chest, and the skin covering it, often causes the irritation of the latter to extend to the former, and thus increase the mischief it was intended to relieve. With regard to internal medicines, they are, fortunately, much the same in all three. Calomel and opium, with or without digitalis and tartar emetic, will generally be useful; and in bronchitis, rhubarb, opium, and ipecacuanha, as follows:—

Calomel, and
Opium in powder, of each ½ to 1 grain.
Tartar emetic, ¼ to ½ grain.
Digitalis, ½ a grain.

Confection enough to form a pill, to be given three times a day. Or,

Rhubarb powder, 2 grains.
Ipecacuanha powder, ½ to 1 grain.
Extract of opium, ½ to 1 grain.
Compound tinct. of benzoin, 2 drops.

Mix, and form a pill, to be given three times a day.

When these remedies have had the desired effect of relieving the inflammation, as evidenced by the breathing and pulse becoming slower, and by the dog being able to lie down, if the pneumonia has been present, some one of the cough mixtures or pills given in the chapter on drugs, under the head of Expectorants, will be found beneficial; but it is generally difficult to say which of them will best suit any particular case; a trial may be made of one for two or three days, and if that fails another should be substituted for it. The diet should be very low at first, and afterwards only a milk and farinaceous one with vegetables should be allowed for some weeks. When dropsy of the chest supervenes upon pleurisy, tapping has occasionally been had recourse to; but for sporting dogs it is wholly useless, because the animal never recovers sufficient bodily powers to be of real service in the field; and it is only in pets whose lives are valued by their masters or mistresses that this operation should ever be had recourse to.

Chronic Bronchitis with Spasm, or

Spasmodic Asthma.

spasmodic asthma, is a frequent disease among fat and petted dogs whose exercise has been neglected, and who have arrived at a mature age. The appetite in these dogs having been kept up by carriage airings, or by some similar absurdity, the blood has been loaded with impurities, and the consequence is that the lungs are called upon to cleanse it to a degree of which they are incapable; hence they become overdone, and spasm comes on with congestion of the mucous membrane of the large air-tubes, causing that frightful panting for breath which is so distressing in the human subject, and which even in the dog is by no means calculated to afford pleasure to the spectator. A fat, pursy, and asthmatic old spaniel, such as is well drawn at the foot of the last page, is a miserable object of pity, and had far better be destroyed, than to suffer it to live on in misery. The nose is dry and hot, the animal spirits are flagging; there is a distressing cough, and exercise is followed by an aggravation of the symptoms. The TREATMENT should be by giving nauseating doses of tartar emetic, camphor, and henbane; or of ipecacuanha with the two last, as follows:—

Ipecacuanha, ½ to 1½ grains.
Camphor, 1 to 2 grains.
Extract of henbane, 1½ to 3 grains.

Make into a pill, and give three times a day. A blister or seton may be applied to the side, and low diet in small bulk should be given; but there is little chance of doing more than to relieve a dog labouring under this complaint.

CONSUMPTION, OR PHTHISIS, is a disease of the lungs, in which a peculiar condition, called tubercle, is developed in them; and when aggravated by cold, or often by the natural constitution of the dog, they become inflamed, are converted into abscesses, and cause the death of the animal by constitutional fever (hectic), and by the suffocation produced either by a vessel giving way, or by the quantity of matter discharged into the air-passages. The symptoms are very insidious, and many dogs have them developed to a great extent before their owners take any notice of their condition. Very little good can be effected by treatment, but sometimes cod-liver oil with steel will be of temporary service. In sporting dogs, however, it is seldom that it is desirable to prolong life with this condition of the system; and it is never right to breed from dogs or bitches suffering under this disease, it being decidedly hereditary.

INFLAMMATION OF THE HEART is another of the diseased conditions which attack the dog, generally from over-exertion in an unprepared state. There is usually a very rapid action of the heart, with a strong bounding pulse, and laborious breathing, unaccompanied by cough. The TREATMENT is to be conducted upon lowering principles, with digitalis and nitre, and blistering or a seton in the side.

SECT. 4.—INFLAMMATION OF THE ORGANS OF NUTRITION.

GASTRITIS, or inflammation of the stomach, is either acute or chronic. *Acute gastritis* is generally caused by poison administered wilfully, or by some similar accidental circumstance, such as highly-seasoned food, &c. There is constant violent retching, with intense thirst, and apparently great pain. The nose is dry, and the breathing quick; no kind of food is retained on the stomach; and the poor wretch lies extended on the cold earth in the attitude represented in the woodcut given below. There is a constant desire to lick cold marble or iron, so as to cool the tongue, and cold water is eagerly sought after. The TREATMENT chiefly consists in removing the sickness, which is best accomplished by calomel and opium, or by prussic acid, as follows:—

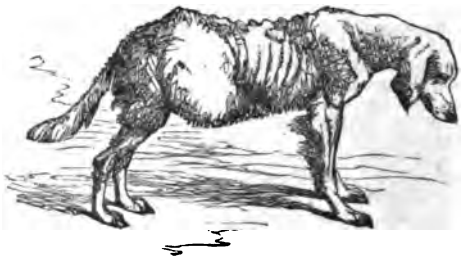
Diluted Hydrocyanic acid, ½ to 1 drop.
Infusion of orange peel, 1 ounce.

INFLAMMATION OF THE STOMACH.

Mix, and give every hour. Sometimes soda water, with a little brandy or tincture of ginger, will relieve the sickness. Very little more can be done except to give soothing food, in the shape of gruel, arrowroot, or barley water, and to administer mild doses of castor oil. CHRONIC GASTRITIS is manifested in the various forms of indigestion, which are as multifarious in the dog as in the human subject. Mr. Mayhew is very happy in his description of the ordinary form of indigestion, an extract from which is as follows:—"The dog that, when offered a piece of bread, smells it with a sleepy eye, and without taking it, licks the fingers that present it, has an impaired digestion. Such an animal will only perhaps take the morsel when it is about to be withdrawn; and having got it, does not swallow it, but places it on the ground, and stands over it with an expression of peevish disgust. A healthy dog is always decided. No animal can be more so. It will often take that which it cannot eat, but having done so, it either throws the needless possession away, or lies down, and, with a determined air, watches 'the property.' There is no vexation in its looks, no captiousness in its manner. It acts with decision, and there is purpose in what it does. The reverse is the case with dogs suffering from indigestion. They are peevish and irresolute; they take only because another shall not have. They will perhaps eat greedily what they do not want, if the cat looks longfully at that which had lain before them for many minutes, and no coaxing could induce them to swallow." The TREATMENT consists of an alteration of the diet from the irregular meals (which in house-fed dogs are generally given at all hours, and of all kinds of improper food), to one or two scanty meals a day of oatmeal porridge, or bread and milk, mixed with a liberal supply of water. These should be given at regular hours, and not the smallest biscuit should be allowed at other times; and this is the great difficulty which there is to contend against in treating these spoiled children of fortune. Over-kindness injures them even more than brutality does the poor drawer of the dog-cart, for he preserves his general health even though his feet are worn down to the quick. Mr. Mayhew well observes that prolonged abstinence is not generally necessary to renovate these worn-out stomachs; but, nevertheless, I am persuaded from experience that very often it will require forty-eight hours' starvation to make the luxurious pet condescend to the homely fare which is really adapted to its stomach. He says that this is attended with danger in many cases; but here I think that his great love for the animal has led him into error, for there can be no doubt that the dog, as a carnivorous animal, is adapted for long fasts, and is really better for them occasionally. If this is the case, keeping a dog without his usual food till he will take plain bread and water, can never injure him, for as soon as he is really hungry he will take the proffered plain diet with gratitude, and until his appetite has arrived he is better with an empty stomach. The medicine best adapted for indigestion is a gentle purge, to begin with, of aloes and rhubarb, as ordered under the Aperients, and then to give a stomachic pill or mixture, according to circumstances, of one or other of the forms detailed under Stomachic Medicines. Sometimes, according to Mr. Mayhew, there is a form of stomach disease in the dog similar to the waterbrash of man; but I have never seen it, owing, perhaps, to my experience of these animals having been chiefly confined to sporting dogs. But knowing how closely their disorders are those of man, I can easily imagine that he is right. He says, "Dogs are afflicted with a disease of the stomach which is very like to 'waterbrash' in the human being. The animals thus tormented are generally fully grown and weakly; a peculiarity of the walk shows the strength is feeble. The chief symptom is, however, not to be mistaken. The creature is dull just before the attack; it gets by itself, and remains quiet. All at once it rises, and, without an effort, a quantity of fluid is ejected from the mouth, and, by the shaking of the head, scattered about. This appears to afford relief, but the same thing may occur frequently during the day. This disease of itself is not dangerous, but it is troublesome, and will make any other disorder the more likely to terminate fatally; it should therefore be always attended to. The food must not be neglected; and either a solution of the iodide of potassium, with liquor potassæ, or pills with trisnitrate of bismuth, must be given. The preparations of iron are sometimes of use; and a leech or two, after a small blister to the side, has also seemed to be beneficial. When some ground has been gained, the treatment recommended for indigestion generally must be adopted, the choice of remedies being guided by the symptoms."

HEPATITIS, OR INFLAMMATION OF THE LIVER is one of the most common of all diseases to which the dog is subject. In

the acute form it is the disease which is characterised by the yellow skin and eyes, commonly called "the yellows," which in sporting dogs is so very commonly fatal. Acute hepatitis comes on from exposure to cold and wet, one or two days after which the dog is shivering and feverish, with a small, hard, and wiry pulse, and a dry nose; there is generally obstinate costiveness, and when the bowels are moved, the motions are white or slate-coloured, and entirely devoid of bile. If these symptoms are not soon alleviated, the inflammation goes on to destroy the substance of the liver; and the dog dies rapidly from constitutional disturbance, arising chiefly from the want of depurating power of the liver. Mr. Mayhew alleges that he has never seen a fatal case of acute inflammation of the liver excepting as a phase of distemper; and the only way that I can account for this is by supposing that he has seen little of the diseases of pointers and setters, who are constantly dying from it; and I have seen at least a dozen fatal cases, though none in my own kennel. To remove the inflammation, bleeding is generally necessary in the early stage, with 2 or 3 grains of blue pill, or 1 grain of calomel, every four hours, with or without opium, according to the state of the bowels; but generally requiring from half a grain to a grain with each dose. If the bowels are confined, a dose of rhubarb and castor oil may be given after three pills have been swallowed, mixing 10 grains of rhubarb with a table-spoonful of oil, and a tea-spoonful of syrup of poppies for a full-sized dog, and less, in proportion, to a smaller one. Sometimes a blister must



CHRONIC HEPATITIS.

be applied to the side when the inflammation runs very high; and, in all cases, the mercury must be continued until the motions acquire a natural colour, when the stomachic mixture, No. 2, may be given and the mercury discontinued. CHRONIC HEPATITIS is a very different disease, and is more frequently the result of bad general management than of cold. Want of exercise is the usual cause, which has given the liver the work of the lungs. The symptoms of CHRONIC HEPATITIS are multiform, and no one can be depended upon except the absence of bile in the fæces, which is an invariable sign, for no gland in a state of chronic inflammation will be able to secrete good bile. In its advanced state the dog often exhibits the aspect which is represented in the woodcut given above; but it is rather an exaggerated form, though I have certainly seen many such cases. Here the liver is much enlarged, and fluid has begun to be poured out by the serous membrane covering the intestines, in consequence of the impediment to the return of blood which passes from them through the liver. The dog is generally, but not always, emaciated, and the appetite is very variable. The whole appearance gives the idea of the dog being out of condition; the hair being rough, frequently rubbed off in patches, and of a dull appearance. The TREATMENT is to be conducted by rubbing into the region of the liver on both sides the ointment of biniodide of mercury, together with ipecacuanha and rhubarb internally, in sufficient doses to keep the bowels gently moved. If the mercurial ointment does not soon cause the bile to flow, it may be assisted by small doses of blue pill or Plummer's pill, added to the rhubarb and ipecacuanha; and the stomachic mixture, No. 1, should be regularly administered in addition. If these means are perseveringly continued, and the dog is regularly but gently exercised, with plain farinaceous food, mixed with weak broth, the disease, unless very inveterate, will generally sub-

side; and if a free flow of bile is obtained little doubt need be felt of the ultimate recovery.

INFLAMMATION OF THE INTESTINES may be said to be divided into four varieties, though one of them is more of a spasmodic than of an inflammatory nature. These are —first, peritoneal inflammation; secondly, colic, or inflammation and spasm of the muscular coat; thirdly, diarrhœa, or acute inflammation of the mucous coat; and, fourthly, constipation, or chronic inflammation of the same membrane. 1.—PERITONITIS AND ENTERITIS are merely different parts of the same membrane inflamed; the former comprehending the peritoneum lining the abdominal walls, whilst the latter embraces the peritoneum covering the intestines. In practice, there is very little difference between them, and the symptoms and treatment are the same. It is a frightful disease, and soon runs its course to a fatal termination; beginning with shivering, cold legs, ears, and nose; breath hot; pulse hard, quick, and small; the expression is an anxious one, with a staring eye; the tail is pressed firmly against the anus, and there is intense tenderness of the belly; bowels generally costive, and urine scanty; tongue dry and rough; with thirst and loss of appetite. As the disease advances all these symptoms become aggravated, and very soon the dog dies, worn out with irritation and pain. The TREATMENT consists in full bleeding, with calomel and opium, of each a grain every four hours. Blisters, or stimulating applications to the belly, and a warm bath, will be beneficial in some cases; but whatever is done must be done quickly, as the disease soon passes on to a fatal termination, if unchecked by remedies. 2.—COLIC is very common in all kinds of dogs, and is partly of a spasmodic, partly of an inflammatory nature. There is intense pain, coming on in paroxysms, during which the dog howls with agony, exhibiting the spectacle of pain, which is most truthfully delineated in the sketch above. Very often the attack is quite sudden, and comes on after a full meal which has been eaten much as usual; suddenly the dog starts up, with something between a moan and a groan, and then lies down again; soon after, there is another groan, and a shifting of the position, and then, after an interval of rest, and perhaps sleep, there comes on a regular paroxysm of pain, with violent howls, which soon however cease, only to be repeated at intervals, varying in length according to the severity of the attack. The nose is not dry or hot, the tongue is clean and moist, and the appetite even is not affected; pulse full and soft, and not much quicker than natural. There is no tenderness of the belly, and pressure seems to alleviate the pain, rather than to increase it. The TREATMENT consists in giving ether and laudanum internally, in doses of from 30 to 60 drops of each, and a clyster of turpentine and laudanum, one tea-spoonful of each in half a pint of gruel. The stimulating embrocation, No. 2, should be well rubbed into the bowels; and in bad cases a very hot bath may be administered. When the colic comes on in young dogs, the injection of turpentine with laudanum and a little ether will generally suffice without any internal medicine; but, a dose of castor oil will almost always be necessary to carry off the offending matter. Sometimes colic is followed or attended by INTUSSUSCEPTION, in which one contracted part of the bowel is driven into the expanded part below it. It cannot be

COLIC.

distinguished from colic, and the animal is sure to die, unless an operation is performed to liberate the bowel; which might be easily done if the disease could be discovered with certainty, which however is not the case. 3.—DIARRHŒA, or DYSENTERY, comes on either from epidemic causes, or from some irritating or improper food, or from too violent aperient medicine. Unless there is an epidemic raging at the time, or the diarrhœa is clearly connected with distemper, the TREATMENT should generally commence with a dose of castor oil, having with it a few drops of laudanum. If this is not enough to stop the purging, the anodyne mixture, No. 1, may be tried, and failing that, No. 2, adding more laudanum to each dose, if necessary, up to any extent, for

SUPERPURGATION.

this medicine is well borne by the dog in full doses. Rice-water is to be the only drink allowed; and arrowroot or rice the only food, flavoured with milk or weak mutton-broth. If the dysentery is very bad, an injection of laudanum and starch may be tried; but it is seldom retained, even for a minute or two, and unless mechanical pressure is kept up on the anus by means of a towel, it is quite useless. 4.—COSTIVENESS is generally the result of chronic inflammation of the bowels, or of the liver, by which their functions are impaired; and when the former is torpid, the healthy stimulus of the bile is not afforded. Dogs which are regularly exercised are not very liable to costiveness, but those which are confined to the house, or to their kennels, are often terribly tormented by it, and suffer severely from the consequences, including that painful affection, piles, to which the dog is much subject. Very often the dog suffers very severe pain from the obstruction afforded by pent-up fæces, and is utterly unable to pass them until Nature has set up an inflammation of the rectum, by which mucus is poured out, and the mass comes away with much straining. The dog thus affected is almost mad with pain; he runs to and fro, rushes into odd corners, and shakes his head in the most odd manner, and in this stage may very easily be mistaken for a "mad dog;" but the suddenness of the attack, and the mass of hardened fæces easily felt in the flank, mark the difference between the two cases. In one case, some years ago, I operated on a setter, and removed a solid mass of fæces, as firm as soft sandstone, and 15 inches long, by cutting down in the flank and opening the side of the rectum. The bowels had not been moved for some weeks, and the dog was at the point of death, and though relieved by the operation he speedily sank. THE PROPER TREATMENT in all mild cases of costiveness is to give an increased quantity of vegetable food, and substitute oatmeal and coarse wheat flour for the more refined articles of diet which some people give their dogs. If there is impaction of fæces in the rectum, a clyster of salt and water, or gruel and castor oil, should be administered; and, in addition, some mild aperient may be given, but the less calomel there is used with it the better. Change of diet is the main agent in correcting costiveness, together with increased exercise, which will generally effect a cure. If PILES make their appearance, the administration of some common brimstone every night in a little water, varying in quantity from 10 to 15 grains, will generally effect a cure; together with a change of diet and exercise, as above. For local treatment, use the pile ointment prescribed among the astringents at page 696. Fistula also occurs, sometimes as a consequence of piles; and it may be remedied by slitting it up, but the operation requires the assistance of a person accustomed to the use of the knife.

Sect. 5.—Inflammation of the Kidney and Bladder.

Inflammation of the Kidney is not very common in the dog, but it sometimes occurs from the use of turpentine as a vermifuge. Very rarely there is met with in the kidney a formation of stone, called Renal Calculus, but no means can be used to remove it, nor are there any symptoms which indicate its presence during life.

Inflammation of the Bladder and Urethra is very common in the dog, and is marked by a discharge of yellow mucus from the end of the penis. This is the result of high feeding generally, though sometimes it comes on from mechanical irritation. The Treatment is to be conducted by giving saline aperients.

Sulphate of magnesia, ½ to 1 ounce.
Nitre, 10 to 15 grains.
Water enough to dissolve.
Mix, and give twice a week.

Balsam of copaiba may be given in obstinate cases, in doses varying from 4 to 15 drops, in a little mucilage, or one or two of the capsules now so commonly sold may be pushed down the throat. When the discharge is clearly in the sheath, a wash of the sulphate of zinc, as here prescribed, may be used.

Sulphate of zinc, 10 to 15 grains.
Rose water, 1 ounce. Mix.

Sect. 6.—Simple Inflammations of the Skin.

Blotch or Surfeit is one of those skin diseases which is dependent upon too gross a diet, and is not of a specific nature, that is to say, it is not caused by contagion, nor by a parasitic insect. It begins with an irritation of the skin, which causes the dog to be constantly scratching. On examination, there is a matted mass of loose hair, as if some starch had been dropped on the coat; and when this comes off, the skin underneath is red, and deprived of its cuticle, discharging also a thin watery fluid. These patches occur chiefly on the back and the inside of the thighs, and also on the scrotum, where they are very commonly met with. The Treatment consists in giving cooling and laxative medicines, with starvation and plenty of exercise. This will almost always effect a cure. Locally, a piece of bluestone may be rubbed upon the sores, but they will not heal until the constitutional foulness of blood has been relieved, after effecting which local measures are seldom needed. An Eruption between the toes is also constantly occurring in sporting dogs; and it is precisely similar in its nature and cause, and also in the treatment. Bluestone is almost invariably successful, if combined with purgation and starvation. It generally requires to be well rubbed in to the roots of the nails, and also to the clefts between the toes. The remaining eruptions of the skin will be found among the Specific Diseases.

CHAPTER III.

DISEASES ACCOMPANIED BY WANT OF POWER—ATONIC DISEASES.

Sect. 1.—Chorea, Shaking Palsy, Epilepsy, and Fits.

Chorea, or St. Vitus's Dance, is a disease of the nervous system, with the exact nature of which we are not acquainted. In the dog it is generally the consequence of an attack of distemper, in which the brain was affected, leaving the state to which the name of chorea is applied. The appearance is very peculiar, and the dog, when the fore-quarter is attacked by chorea, has the most idiotic look imaginable; he goes about nodding his head and dropping his fore-leg as if he was playing the fool, but with the most helpless expression imaginable. Sometimes the whole body is implicated, but generally the disease is confined to the head, neck, and one shoulder and fore-leg. During sleep these spasms disappear, though the repose is seldom perfect, and the dog is continually aroused by dreams, and then is attacked by the twitchings, which last till sleep returns. It is in this point that chorea differs from Shaking Palsy, which is a general shaking of the body, arising from nearly the same causes as chorea, and requiring the same treatment; but as it is, I believe, invariably beyond our means of curing it, any measures to that end are thrown away. During the continuance of chorea the dog may or may not remain in good health, just as in some other disorders an animal may recover from

the cause, but the effect still remains; and therefore, although in all cases chorea is preceded by some disturbance of the whole system, yet this may go off and leave the dog apparently quite well, and with a good appetite, &c., but suffering from this peculiar condition of the nervous system. If the dog is otherwise in good health, chorea, I think, never destroys life; and it is only when the original disease persists, that the dog afflicted with chorea dies, which he sometimes does, gradually becoming weaker and weaker, until at last he cannot rise from his bed, but lies there convulsed with slight spasms, and finally carried off in a severe fit of them. But as I before said, death does not occur from chorea, which is only a symptom, but from other mischief going on, and which is most probably also the cause of the chorea. With regard to this CAUSE, there is little doubt that it exists in the spinal column, or the base of the brain, or in the nervous system, expanded upon the organs of nutrition, called the sympathetic; but as these parts of the great nervous system seldom indicate to our limited senses any alteration after death, we can scarcely expect to find, in such a chronic disease as this is, those marks which are absent in more acute and severe affections. Hence, although we find no actual alteration, we are not therefore to conclude that there is none, and especially when the co-existent mischief in fatal cases is so very variously located. Sometimes there is inflammation of the stomach and intestines, with diarrhœa, the result of improper feeding; again, in another case, we find worms in great numbers; in a third case, where a dog, otherwise in good health, is purposely killed, no morbid alteration can be discovered; and in a fourth there will probably be found some slight and chronic thickening of the membranes of the brain, as when there has been great mischief in that organ during distemper. Mr. Mayhew having found the stomach inflamed in all the cases which he has examined after death, has arrived at the conclusion that this is the *primary* seat of the disease, and that the spinal cord has become affected by sympathy with it. But here I cannot agree with him, for I have carefully examined the stomachs of several young greyhounds and found no evidence of disease where chorea existed in such a marked manner as to render them useless for coursing, but in which the health was otherwise good. These puppies were purposely killed, and the absence of stomachic disease invalidates the statement made by him; though I am quite ready to admit that in all the cases which he would be likely to dissect, there would in all probability, be the remains of stomach-disease; because he would only see those which had died from some other affection, distinct from chorea, and that affection being fatal would most probably be inflammation of the stomach or bowels. But in chorea, which persists after the accompanying disorders of the system have been relieved, there is found no sign at all; and simply for this reason, that with our present knowledge we have no certain means of discovering the evidences of disease in any part of the nervous system. For these several reasons I can only come to the same conclusion, as in human pathology, that chorea is some disordered condition of the nervous system, whose remains after death baffle our search; and that it is independent in its cause of stomach-disease, though perhaps aggravated by it. The TREATMENT of chorea must be conducted on two principles—first, to improve the general health by good food and fresh air, aided by stomachic medicines; and secondly, to give such strengthening and tonic medicines as are likely to improve the tone of the nervous system. Fresh country air is of the utmost consequence, and this alone will often dispel the attacks of chorea; but when united to a liberal diet it is doubly likely to be successful. The puppy should have plenty of good milk, or, if that cannot be obtained, beef tea or mutton broth, with oatmeal or wheaten flour added in proportion to the looseness of the bowels. If these are confined, they must be acted on by castor oil or rhubarb and aloes, or some of the aperients which merely act without producing much loss of strength. When the strength is somewhat improved by diet and stomachics, sulphate of zinc, in doses varying from two to four grains three times a day, may be given; or a grain or two of quinine, with two or three grains of extract of hemlock in a pill, will be likely to be serviceable, but either must be used regularly for some weeks in order to have a fair chance of success. By these means many bad cases may be relieved, or perhaps nearly cured; but with sporting dogs, if the attack is really severe, it is seldom that sufficient improvement is effected to make the dog as efficient as before. Hence, in these instances it is perhaps better to destroy him, than to persist in patching him up in a way which will only render him a burden and disgrace to his master. Shaking palsy, I have already remarked, is wholly incurable.

Epilepsy may be distinguished from the fits of puppyhood by the great champing of the jaws and struggling of the limbs during the fit, and also by the frothing at the mouth, which is generally an accompaniment of it. It comes on without notice, and in the setter and pointer is peculiarly annoying, because it generally shows itself at the time when their services are most wanted, namely, during the middle of a day's shooting. Very often this happens during the excitement of the "point," but the fit is scarcely remarked till the birds are sprung, when the dog generally falls, and is seized with struggles and foaming at the mouth. Generally this lasts for a few minutes, extending sometimes to half an hour, after which he recovers himself, and will even continue his work without loss of nose. With regard to the causes of epilepsy nothing is known, but its attacks are aggravated by improper food, and by the addition of flesh without due preparation, as is often heedlessly done just before the shooting season. The Treatment consists in attention to the general health, which is all that can be done, as in confirmed epilepsy a cure is out of the question. Aperients, or even emetics, will be more likely to do good than any other medicine, and the use of the former is by far the most likely palliative measure.

By Fits may be understood those which occur to the puppy during dentition or from distemper, both of which indicate either disease of the brain, or great disturbance of the digestive apparatus in consequence of worms. These fits are accompanied by slight convulsions, but no foaming at the mouth, and the dog is not speedily recovered from them, but lies exhausted after he recovers his consciousness. They are very fatal in distemper, being symptoms of great mischief in the brain; but they are not invariably fatal, because the severity of the fit does not always indicate a corresponding degree of internal mischief. In their Treatment Mr. Mayhew recommends injections of ether and laudanum; but I can scarcely assign to this remedy the credit which he claims for it, knowing that many epileptic fits are recovered from without any aid at all, and finding that he classes all under the one head of "fits." In the kind I am now considering, there is generally some exciting cause present, as distemper, or the irritation of worms, or of teething; and if these are removed, the fits will generally subside, and, consequently, the whole attention should be directed to this object. These fits seldom recur many times in succession, being either speedily fatal, or else ending in a complete cure; and in this respect they are unlike epilepsy, as well as in their symptoms and treatment.

Sect. 2.—General Dropsy.

Anasarca, or general dropsy in the dog, is not a very uncommon disease among old kennelled dogs, owing to the improper way in which they are fed and kept without exercise. It consists of an infiltration of serum from the blood-vessels into the cellular membrane, caused by the kidneys refusing to act, as a consequence generally of inflammation; and the disease, therefore, is merely a symptom of inflammation of the kidneys, for which reason I might have classed it among the inflammatory diseases, but that it sometimes occurs from a different condition of that organ, owing to a want of tone in the general system. Its most frequent cause is either improper stimulants—in the case of the stallion greyhound, a very frequent cause—or a gross kind of food, or sometimes from simple over-crowding of the dogs in a small kennel, occasioning a breaking down of the system, and an exudation of serum as a consequence. Among over-stimulated pets, which are not allowed any exercise, it is a very common disease, and often carries them off in a very disgustingly loathsome condition. When the liver is in fault, by throwing too much work upon the kidneys, as is sometimes the case, the urine is *yellow*, but in the usual way it is highly charged with salts, and dark *brown*, not yellow. The Treatment consists in acting in accordance with the cause—that is to say, in treating the case so as to relieve the dropsy, and not upon any fixed principles; thus, supposing the kidneys are inflamed, blood must be taken, and calomel and digitalis given in grain doses of each, without any violent diuretics, which will only aggravate the disease. If the dropsy is merely a symptom of a breaking down of the system this must be propped by bark and steel, with perhaps ammonia in addition. When the urine is mixed with blood, in a broken down constitution, the following mixture may be given, on the authority of Mr. Mayhew, and I have no doubt with success:—

Tincture of cantharides, 8 drops.
Water, 2 ounces.
To be given twice a day.

If the dropsy is from the kidneys refusing to act, six or eight grains of nitre may be given two or three times a day, in the diuretic mixture, No. 2, but the great prin-

ciple is to make out the cause and act accordingly.

Sect. 3.—Bronchocele.

Bronchocele is an enlargement of the thyroid body in the throat, sometimes to an enormous extent, so as to press upon the windpipe and destroy life. Nothing is known of the nature of this body, or of the causes of its enlargement, and all that we can do is empirically to use that remedy which we find will reduce it, and here we fix upon iodine, as the only really successful one. The iodide of potassium may be given by the mouth—

Iodide of potassium, 3 grains.
Linseed meal, enough to make a pill.

To be given three times a day, and the following ointment rubbed into the throat night and morning:—

Iodide of potassium, 1 drm.
Lard, 1 oz. Mix.

It is, however, of such a nature as always to interfere with the employment of sporting dogs, and they are seldom so far cured as to be so useful as before.

Sect. 4.—Worms.

The Presence of Worms in the intestinal canal is one of the greatest annoyances to the proprietors of dogs of all classes. In the greyhound they are a constant source of mischief, and in the other varieties of sporting dogs they are almost equally common. In the puppy they are particularly injurious, cutting off his supplies of food, and also irritating his nervous system, to a degree which can scarcely be credited without actual experience. Whenever a puppy is seen to look rough and unhealthy in his coat (mere roughness is no indication), and when he is also thinner than he ought to be, with a ravenous appetite, and the constant passing of small quantities of fæces, the first part of which is solid, while the latter part is loose and frothy; when he also is more dull than natural, with a hot dry nose, and offensive breath, it may generally be concluded that he has some kind of intestinal worm, and the only thing is to find out which species is present, and then to exhibit the appropriate remedy. For this purpose the areca nut (see page 703) is a very useful medicine, given in proportion to the age and size, from the whole nut powdered, which is the dose for a full-grown dog of 40lb. or 50lb., down to a quarter of a nut for a little dog of 10lb. weight. This should be given, and followed in a few hours by a mild dose of castor oil, when some of the worms present will most likely make their appearance, and according to their nature must the remedy be. Many people assert, that it will clear the dog of any and all worms by persevering in its use; but I have always found that it only brings away a few tape-worm joints alive, and neither kills the head left behind, nor brings it away. Nevertheless, I cannot say how its use persevered in twice a week for some time might operate, as I have never tried more than five or six consecutive doses.

The Varieties of Worms are as follows:—

1. The Common Maw-Worm (*Ascaris vermicularis*).—A short white worm, about an inch long, with a pointed tail, and a flat broad head, the intervening part being nearly round. These worms exist chiefly in the large intestines, where they are often in great numbers, and they do not *much* interfere with the health of the dog.

2. The Long Round Worm (*Ascaris lumbricoides*).—A pink or red worm, resembling the garden worm in appearance, but somewhat less in size, and not so red in colour. They chiefly inhabit the small intestines, and are very injurious to the health, interfering with the digestion in every way, since they take up the chyle for their own use, and also irritate the mucous membrane by their presence.

The Tape-Worm (*Tænia solium* and *Tænia lata*).—This worm is found in two or three species, but for our purpose it is sufficient to describe its general appearance, which is that of a long flat worm *divided into joints*, and often coming away in portions, but leaving the head behind. It is, when suffered to remain long enough, from 6 to 8 feet long, and the dog may often be seen running about with a foot or two hanging from his *anus*, or curled round his tail, to his great annoyance and disgust. The tape-worm inhabits the small intestines, and is much worse even than the round worm in its effects upon the health of the animal. Its expulsion should therefore be effected with great care, and its head, which is larger considerably than the diameter of the rest of the body, should be diligently sought for, for until this is found it cannot be asserted with positive certainty that the vermifuge has been successful.

The General Principles of treatment cousist in starving the dog for from 12 to 24 hours, and then administering the appropriate vermifuge, followed by a mild dose of aperient medicine, to carry off the worms from the intestines. In the chapter on drugs, I have given a list of vermifuges,

suited to the various conditions and kinds of worms; but it will be necessary to repeat here what are the best for each kind, and their respective advantages and disadvantages, for, unfortunately, all are, more or less, injurious to the dog, and their use is only to be encouraged as a less evil than the continued existence of worms.

THE REMEDIES FOR MAW-WORM AND ROUND-WORM are as follows:—

Wormwood (*Artemisia absinthium*).
Garlic (*Allium sativum*).
Cowhage (*Mucuna pruriens*).
Santonine, or the active principle of worm-seed (*Artemisin contra*).
Indian pink (*Spigelia Marylandica*).
Betel nut (*Nux areca*).
Stinking hellebore (*Helleborus fœtidus*).
Powdered tin and glass.
Calomel (*Hydrargyri chloridum*).

For TAPE-WORM the following may be used with advantage:—

Kousso (*Brayera anthelmintica*).
Barbadoes tar (*Petroleum Barbadense*).
Pomegranate bark (*Punica granatum*).
Male fern (*Filix mas*).
Spirit of turpentine (*Spiritus terebinthinæ*).

The chief varieties of these are alluded to in the chapter on drugs; but their more peculiar properties may better be enlarged upon in this place, and I will therefore describe the effects and properties of each.

WORMWOOD is grown in this country indigenously, as a downy under-shrub, with large dingy-yellow flowers. The whole of the plant is aromatic and bitter, and yields a green volatile oil, in which the vermifuge power seems to reside. It is an excellent remedy for young puppies, because it acts as a tonic, and thereby prevents the further accumulation of worms from the weakness of the stomach, which is so often the real cause of their presence. It should be given in powder, in doses varying from 10 to 30 grains, mixed into a bolus with any syrup or honey.

GARLIC is a bulb too well known to need description. They are of an acrid pungent taste, and are very useful in expelling the MAW-WORM when stronger remedies are not safe, as in a delicate puppy. The mode of administration is by mashing up the bulbs in a mortar, and giving them in mass as a bolus. From a drachm to half an ounce is the dose, according to the size of the puppy; or even less in very small puppies.

COWHAGE consists of the hairy down from the pods of the *Mucuna pruriens*, a twining shrub, with purple flowers, having a disagreeable garlicky smell, and succeeded by pods containing three or four seeds enveloped in the down called cowhage. Its operation is purely mechanical, the minute hairs irritating the worms, and causing them to let go their hold upon the mucous membrane, which itself is protected by the mucus covering it. It is a very good vermifuge as a temporary expedient in dogs which are in present use, but it does not destroy those which remain, and will not quite clear a dog in the usual way; but some people are of opinion that it is one of the most valuable of all vermifuges. The mode of giving it is by scraping the cowhage into treacle or honey, with which it is mixed, and of this a teaspoonful or two is given to the dog every other morning for five or six doses, followed at last by a dose of castor oil, and if the bowels are costive, by one in the middle of the time.

SANTONINE is difficult to procure pure, but when genuine it is the most useful remedy for round-worm, which it removes with great certainty. The brown santonine, which is the best variety, should be obtained from a first-rate druggist, and mixed into a bolus, with a considerable quantity of rhubarb or jalap—that is, from 5 to 15 grains of either or of a mixture of both. From ½ to 3 grains is the dose of santonine, according to the age, mixed with the above aperient, and given twice a week for three or four doses. Its effects are, as far as I know, very satisfactory, in not injuring the stomach, and it is therefore the least prejudicial of all the vermifuges upon which any reliance can be placed; but its expense is an obstacle where large numbers are to be dosed.

INDIAN OR CAROLINA PINK, is an American perennial root, usually sold in this country in bundles of the entire plant, about 20 inches long. The useful part is the root, which consists of numerous yellowish-brown fibres, having a faint odour, and a nauseous taste. When tolerably fresh it is a strong vermifuge; but it is very variable in its effects, and, I am inclined to believe, is much adulterated by an admixture of other plants as a substitute, because in some few cases I have known it irritate the bowels to a dangerous degree, but whether accidentally or not I cannot say. It is not a medicine which can be given to a greyhound in training, nor to a delicate puppy. It is administered by infusing an ounce of the root in half a pint of boiling water for an hour, and giving from one-eighth to one-quarter of it to the dog when fasting, followed in six hours by a dose of castor oil.

The Areca Nut is powdered, and given either with the food or as a bolus, in the dose of a whole nut for a large dog, or less in proportion to a small one. (See page 708.) It is a very innocent remedy, and as far as my experience goes very efficacious.

The Stinking Hellebore is a plant which grows in the shady parts of our woods in great abundance. The leaves should be gathered early in the autumn, and carefully dried and kept in a stoppered phial. Its effect is solely upon the worm, as it is rather a stomachic than an irritant. From 5 to 15 grains may be mixed with an equal quantity of jalap, and made into a bolus, which is to be given twice a week. For young dogs out of condition it is very useful, and it may be given at all times.

Powdered Tin and Glass act only mechanically. As much as will lie upon a shilling of either may be mixed with lard and given as a bolus to the dog fasting.

Calomel is a very efficient vermifuge for maw, or round-worm; but it requires great caution in its use, as it always weakens the dog in its stomach, as well as his general system, and renders him liable to cold. From 2 to 5 grains are the dose in a pill, with jalap.

Kousso is a native of Abyssinia, where it is the proper remedy for tape-worm, with which the natives are much afflicted. The flowers are the parts used, and they are powdered before being sold, though for what purpose, except for its more ready adulteration, I am at a loss to know. It is universally said to be a very innocent vermifuge in human medicine, and wherever it has been used it has been more or less successful without doing any injury to the stomach; indeed it does not seem to produce any remarkable effects, except occasionally to cause the stomach to reject it, and it seldom purges. I have used it in a great number of cases upon the greyhound with good success, and without the slightest inconvenience; but I have been informed by Mr. Cass, of Thirsk, that several of his dogs were nearly killed by taking it. I endeavoured to obtain from him the particulars, but could not succeed, and I am therefore unable to do more than mention the circumstance as causing a possible necessity of caution. There must, I think, have been some mistake either in the article itself or its mode of administration; but still it may have been as he says, and the medicine may be occasionally injurious to the dog in spite of the numerous cases in which it has been tried, and the close analogy between the dog and man, in whom there is no doubt that it is perfectly harmless. When it is given it should be infused in boiling water till cool—one ounce of kousso to half a pint of water, to which the juice of one lemon should be added. From one-quarter to half of this (including the powder by agitation before giving it) should then be poured down the dog's throat, and followed six hours after by a dose of oil. This should be repeated once or twice a week till the dog seems clear of his worms, the stomach being always emptied by a twelve hours' fast before giving the kousso, and plenty of slops being allowed to work it off.

Barbadoes Tar is a mineral production, found floating on the internal waters of several of the West India islands; but it is now very seldom used, and I know nothing of its properties or effects.

Pomegranate Bark is obtained from the tree bearing the same name, which is a native of Africa. The bark is sold in short quills, of a greyish yellow colour externally, yellowish inside, brittle, with a faint odour and an astringent bitter taste. It is a good vermifuge for tape-worm, but it is not much used in this country, India being the chief locality where it is in vogue. From one ounce to half an ounce is the dose, infused for 24 hours in a pint and a-half of boiling water, and then boiled down to one-half and filtered. The dose should be divided into three portions, and one third given every half-hour till all is taken.

The Male Fern is met with in this country, and it should be dug up in summer, cleared of root, fibres, &c., but not washed; and dried quickly and thoroughly in the open air, in the shade without heat, the tufts and those parts only which are greenish internally should be used. They should be reduced to powder at once, and preserved in well-stoppered bottles; the powder never being kept over a second summer, as it soon loses its strength. When genuine and fresh it is the very best remedy for tape-worm we possess; but it can only be obtained with certainty in a state fit to be depended on by digging for it, and preparing it oneself. The botanical characters of the plant are as follows:—The underground stem large, tufted, scaly; producing in spring beautiful leaves, pinnate, with oblong, serrated, obtuse leaflets. The Dose is 1 scruple to 2 drachms of the dried powder, given in a bolus on an empty stomach, and followed in two hours by a brisk purge either of castor oil or jalap. The Oil prepared from it is sold in the shops, of

which from 10 to 20 drops are a dose, mixed up with linseed meal and a little boiling water; and half being given at night and the other half the next morning, followed in six hours by a brisk purge.

Oil or Spirit of Turpentine is certainly a very powerful agent in the expulsion of tape-worm, and in some persons' hands it appears to be comparatively innocent; but, in many cases, it upsets the health greatly for a long time after its exhibition. It may be given either tied up in a thin piece of bladder, and put down the throat like a bolus, after which the bladder is digested and the turpentine liberated; or by mixing it with a little suet to such a consistency as to make a bolus. In this latter way, however, it is very commonly rejected by the stomach, and if it is to be given the bladder is the best mode of using it. From half a drachm to half an ounce should be tied up, or mixed as I have said, and given fasting once a week at the oftenest. It should be followed as usual by a good dose of oil; and it will generally, if it is kept down, cause the worm to evacuate its quarters; but too often it causes also so much irritation and inflammation of the mucous membrane as to be highly prejudicial to the dog's state of health. If, therefore, the kousso or the male fern will have an equally good effect—as I believe they will—unattended by these evils, no one I should think would sanction the use of the turpentine. There are, however, some few obstinate cases in which the worm resists all ordinary means, parting only with small portions, and its head obstinately retaining its vitality and its hold. In such cases it is wise to try the turpentine after the failure of other means, and it may then perhaps justify the praise which has so generally been accorded to it. Yet it must be recollected, that until kousso was introduced, turpentine was always considered an unsafe remedy; and it is much more so in the dog than in man, as it cannot in the lower animal be given mixed with castor oil, because it always when so lowered causes vomiting, and is rejected, so as entirely to negative its qualities as a vermifuge. With these remarks I shall conclude the section on Worms, merely observing, that though I have noticed all the remedies at present in use, I consider santonine, stinking hellebore, Indian pink, kousso, and male fern by far the most valuable of them. The three first for maw and round worms, and the two last for tape-worm.

CHAPTER IV.

DISEASES ARISING FROM IMPROPER FEEDING OR NEGLECT.

Sect. 1.—Anæmia, or Poverty of Blood.

Poverty of Blood comes on in the dog either from bad food or from over-crowding, either of which will produce it. It consists in a state of the blood in which the red particles are deficient in number, and this vital fluid is altogether of too thin a consistency, and consequently too watery in its nature. The dog looks emaciated and hungry, with a staring coat and a sunken eye; and his lips and tongue being of a pale pink, instead of the rich red which they ought to exhibit. It is generally seen in large towns, where puppies are sometimes reared in back yards to which the sun has no access, and where a free current of air is a rarity. The Treatment is founded upon a complete alteration from previous habits; fresh country air and good food being substituted for the state of things which has produced the disease. A tonic medicine will also sometimes be required, consisting of quinine in combination with steel, as follows:—

Sulphate of quinine, 1 grain.
Sulphate of iron, 1 grain.
Extract of camomile, enough to make a bolus.

To be given twice a day.

Worms are generally present in this state of the constitution, and as soon as the strength will allow of the proper medicines being used to remove them, they ought to be exhibited, but with great care. In spite of everything which may be done, few puppies ever fully recover from this condition, and therefore in the case of greyhounds it is almost hopeless to attempt their treatment.

Sect. 2.—Rickets and Enlarged Joints.

The State of System called Rickets depends upon nearly the same mismanagement as described in the last section; but

it is sometimes seen even in rural districts, when the puppy is confined to a small damp yard, and is badly fed, or deprived of bones. Phosphate of lime is the main agent in stiffening the skeleton, and if food containing this salt is not afforded in sufficient quantity the bones are of a gelatinous character, easily bending under the dog's weight, and consequently rendered by nature too bulky for his future well-being as an animal fitted for the chase. Many breeders like to see a puppy show larger joints than usual, and consider them an indication of strength; but I am strongly of opinion that the reverse is the case, and that the puppy which has them is not nearly so strong as one whose limbs are grown more like those of an old dog. This, however, is a disputed point, and I would never advise the rejection of a puppy because his joints were *all* enlarged; but if one is much larger than the others, it is a sign of worse disease than rickets, and more nearly allied to what, in human pathology, is called *scrofula*. Sometimes the swellings disappear, and the disease is cured, but generally these joints become more and more inflamed, and finally go on to form matter, and to make the dog entirely lame. Little can be done for this in the way of TREATMENT, and the destruction of the puppy is the best plan of proceeding. In rickets, however, a great change sometimes takes place, and the bending of the limbs or the enlargement of the joints gradually disappears, leaving only some slight indication of what has existed. Too often, however, the bone is weak and liable to fracture; and at the time when the dog is wanted for the sport to which it is dedicated, the bone gives way, and the time and trouble occupied in its rearing are found to have been totally thrown away; hence the necessity for good feeding in the rearing of all young dogs; and, as I have advised in the case of the greyhound, too much care can scarcely be bestowed upon them.

CHAPTER V.

SPECIFIC DISEASES.

SECT. 1.—MANGE.

MANGE consists of several eruptions, which are in common language grouped under the above head, the chief popular distinction being that it is communicable from one to the other by contact—that is to say, that it is "catching." Hence, the sporting public exclude surfeit, blotch, &c., from this definition, and only include under the term mange those chronic eruptions which are capable of being taken by one dog from another. There are, however, several distinct varieties, which are not sufficiently described; and every now and then I see a fresh and perfectly new form, so that I cannot now give a complete epitome of them. Mr. Mayhew enumerates five varieties, but he begins by asserting that "every affection of the skin in the dog is termed mange." Whereas every sportsman must know that when his dog has an eruption, the first question asked is the following, namely —"Is it mange, or not?" He is, however, deserving of every praise, for introducing arsenic as a cure for many forms of this disease, and I have no doubt that his plan will be followed by a great number of cures. Here, again, the analogy with the human subject is complete, the very same forms of eruption being completely under the control of that active medicine, but not those depending upon an insect, which Mr. Mayhew supposes is the cause of true mange, but which I fancy is only met with in one form, and this can be cured as in the human "itch," by external remedies alone. The following are the forms of mange which I have met with; but, as I said before, I am constantly meeting with a new variety.

VIRULENT MANGE, in its more ordinary form, occurs most commonly in utterly-neglected and large kennels, where dogs are suffered to remain in large numbers together, in all their filth, and without exercise. It is seldom met with elsewhere, but it is highly contagious. The skin is bare of hair in large patches, but these are not in regular forms, being gradually shaded off into the hairy parts, as if from scratching, and are nowhere quite free from hairs. The skin is dry and rough, with a few oozing scabs here and there, and with inflamed creases, extending wherever there is a fold. The eruption is generally confined to the back, bosom, and inside of the thighs. The health is not much affected, but from the loss of sleep, and constant irritation caused by the

itching, there is sometimes some little fever. There is reason to believe that an insect is the cause of this form of mange. The TREATMENT consists in a gentle dose or two of aperient medicine internally, and externally of the application of the compound sulphur ointment, reduced in thickness by a little oil, to make it more easily rubbed into the roots of the hair. This should be continued every night, for three or four times in succession, after which the dog should be well washed with soap and water, and he will then most probably be cured. If the cure is not complete, the following wash may be tried, but the dog must be muzzled for some days, or he will, in licking himself, swallow enough of the application to poison himself. To guard against which, as far as possible, the aloes is added:—

Decoction of white hellebore, 4 ounces.
Decoction of tobacco, 4 ounces.
Corrosive sublimate, 8 grains.
Aloes, 2 drachms. Mix while hot.

THE SECOND FORM OF VIRULENT MANGE, supposed to depend on a vegetable growth somewhat similar to mould, is more rare than the first variety, and much more difficult to eradicate. Its appearance differs little from the first kind, the chief point of distinction being that this kind usually attacks young puppies, whilst the insect form is generally found upon the adult animal. In both the hair falls off; but in the second kind there is more scab, and the itching not being so violent, it is not so much scratched off, so that often there is a considerable accumulation. The TREATMENT is required to be very energetic locally as well as internally. If the dog's health is upset, as is generally the case, tonics or stomachics will be required; and externally apply the following ointment:—

Iodide of mercury (yellow), 1 drachm.
Lard, 1 ounce.

Mix, and rub a little in every night, using a muzzle to prevent licking. A very small quantity only should be rubbed in, leaving none in the coat.

MANGE, WITH THICKENING OF THE SKIN, appears to be more dependent on constitutional disorder than the first two varieties, and for it the arsenical solution is no doubt very valuable. In this disease the discharge is very offensive; the skin is thick, and pouring out an irritating ichor which occasions a constant and violent itching; the hair falls off, and the dog is continually scratching himself. The REMEDY for this state is a cooling diet, without any animal food of any kind, and composed chiefly of potatoes and other vegetables. A smart purge may be first given, and then the liquor arsenicalis in doses of from 2 to 10 drops three times a day, *mixed with the food*, according to the size of the dog. If this dose makes the eyes red, or stops the appetite, or occasions vomiting, it may be diminished one half; but the best plan in all cases is to begin with a full dose at first, and when the desired effect is produced, gradually to diminish it. Less than two or three months will seldom effect a cure, and the sulphur ointment will often be required to complete it.

RED MANGE is the most easily detected of all the varieties, because it always shows itself by altering the colour of the hair, whether the dog is white or not. If white, the hair becomes pink; and if brown or red, it is of a brighter shade. It does not, however, fall off, except from the constant scratching which takes place. There is no eruption visible, but the skin is more red than natural. The remedy is either the ointment given in the opposite column, or a mixture of blue mercurial and compound sulphur ointments in equal proportions. At the same time the dog should be treated with liquor arsenicalis (see above), and reduced in food, so as to be thereby improved in his health, which is generally affected considerably before this disease appears.

Mr. Mayhew's fourth kind of mange is what I have described as "blotch," by which name it is usually known.

A FIFTH VARIETY is decidedly of a scaly character, unattended by much inflammation, and not accompanied by much irritation. In the only case which I have seen it was cured by the liquor arsenicalis and ointment of iodide of mercury.

IN ALL CASES OF MANGE a due amount of exercise should be enforced; but this is so much neglected, that it will require great caution to see that it is attended to. All dogs with mange are avoided in consequence of the contagious nature of the disease, and few servants like to take them out with them for that reason. Nevertheless, exercise is essential to recovery; and if the dog is worth curing, he is worth taking out as a means towards the cure.

SECT. 2.—CANCER.

CANCER is a malignant disease, which chiefly attacks the reproductive organs in the male and female. It first makes its appearance in a large lump like a walnut, and in that state occasions very little pain; after a time the tumour enlarges, and at last a small point softens and ulcerates;

and then an open cancer, attended with a foul discharge, makes its appearance. Being perfectly incurable, it is of no use to prescribe any remedies for this disease, and the dog affected with it had better be destroyed.

Sect. 3.—Encysted Tumours.

These are very common in the dog, and consist of small soft bladders lying close under the skin, of a circular form, and devoid of pain or inflammation. They vary in size from that of a pea to the volume of a small orange. The only remedy is the knife, which may be used with perfect safety by any one accustomed to it. The skin must be saved and dissected back, and the tumour, when exposed, may readily be lifted out of its bed without much dissection; after which the parts may be suffered to heal of themselves.

Sect. 4.—Diseases of Parturition.

In Healthy Parturition the bitch seldom suffers much; but sometimes in a small bitch, when the sire is of much larger size, the disproportion between the whelps and the mother is so great as to occasion great difficulty and danger; and sometimes also from other causes.

In order to ascertain whether or not the bitch is in pup, a careful external examination will generally be necessary; when, on pressing the fingers deeply between the rectum and the bladder, several small round or oval bodies may be felt, in number according to the future litter. Between the fourth and seventh weeks the whelps cannot so easily be felt; but, though they are said to be lost, a careful examination by a practised hand will always detect nearly all of them lying close against them. After the seventh week they appear very plainly, and the belly rapidly swells till it attains the size which it presents at whelping time; about three or four days before which the teats begin to swell, and on the day before generally are full of milk, a pretty sure indication of the near approach of labour.

In the Process of Parturition, the bitch should be left to herself as much as possible; and if of good size and healthy, she will nearly always pass through it without trouble. Sometimes, however, her pelvis is too small to allow of the passage of the whelp, and then either she must die, or man must afford his aid by mechanical means; but this operation is too difficult for any but a practised hand, and therefore I should recommend the aid of a skilful veterinarian to be in all cases called in. If a part of the whelp is born, and the remainder does not come away for some time—owing apparently to the exhausted condition of the bitch—it is quite safe to give a little brandy and gruel by the mouth, and then steadily to draw away the whelp, by laying hold of the part presenting with a piece of tape round it, or a strip of calico. As soon as all the whelps are born, the bitch may be allowed to rest for a short time, unless she is very much exhausted, when the brandy and gruel may be given, as directed in the last paragraph. After an hour, in the usual way, a little lukewarm gruel may be allowed; and in the course of four hours another quantity of the same. No meat of any kind should be given for three days, during which time the state of the bowels should be regulated, if necessary, by castor oil; and milk thickened with oatmeal or wheat-flour, or broth with the same thickening, or with arrowroot, if diarrhœa is present, should be the only food. Sometimes, after the first week, the whole litter is too great a draw upon the system, and part must be removed from the bitch, and brought up by hand, if it is wished to preserve them, feeding them from a common baby's bottle, with the India-rubber nipple now so commonly in use; but a very thick and stout one should be selected, or the puppy will compress it too much with its tongue. When the bitch is much reduced by her suckling, she sometimes is subject to fits, for which the only remedy is the removal of her whelps, and the exhibition of strong beef tea, with bark, as prescribed at page 703, and ammonia in addition; together with port wine and arrowroot, if the bowels are relaxed. After the first week, and, indeed, gradually during the fourth, fifth, and sixth days, meat must be added to the other food, especially if the bitch has had much animal food before whelping.

If the bitch is inclined to devour her young, she should be allowed to remain very quiet, and very little animal food should be given her. A dose of oil should always be given a short time before her whelping time; and if she should, nevertheless, devour them, another dose should follow, so as to carry off the effects of so heating a meal.

If a foster-mother is determined upon, all that is necessary is to muzzle her until the strange whelps have sucked her, and lain for some time with her own; she will then fail to distinguish between them, and her own offspring may be removed with safety, leaving the foster-whelps to her

care, which she will exercise just as fully towards them as if they were really hers.

If the bitch has been "put by," as it is called, and is not in whelp at the end of nine weeks from her "heat," she will be fat and indolent, with her teats full of milk. At this time it is better to take a little blood from her, and to give her a smart purge once or twice, together with vegetable food; after which she will generally recover her health and spirits, and become much as usual at the expiration of another month or five weeks. This ought to be fully considered in the case of all sporting dogs.

CHAPTER VI.

ACCIDENTS AND OPERATIONS.

Sect. 1.—Cuts, Tears, and Bites.

Solutions of Continuity, as these accidents are designated in the dignified nomenclature of human surgery, are easily treated in the dog, because his skin is very readily healed, though not so speedily or in the same manner as that of man. In man a clean cut, if properly treated, heals as if by magic; and in three days large surfaces of many inches in extent will often be firmly healed by a kind of glue thrown out from the cut surfaces, which afterwards becomes organized. In the dog and horse, however, no such glue is thrown out, and the oozing is always of a watery nature; so that apposition must always be maintained by stitches, and even they are only of use in preventing extreme displacement while they remain inserted. In slight cuts, tears, and bites, therefore, it is better to leave them alone to the healing powers of the dog's tongue; but in those cases where a large flap is torn down, as in the legs for instance, a stitch or two should always be inserted, over which a bandage should be fixed, and the dog kept muzzled until union takes place. Without the last precaution stitches and bandages are of no use, since the dog will always manage to remove them, and will tear out any stitches which may be inserted, however carefully they may be tied. The first thing to be done is to wash the parts, if dirty, and then with a common needle and thread to put in several stitches, according to the extent of the wound; but only fixing it so as to keep it nearly in position, for an exact adaptation is of no use whatever. In putting in the stitches, the following is the plan to be adopted: take the needle and thread and insert it in the outside of the skin, on one side of the wound, and bring it out on the inside; then pass it from the inside towards the out of the opposite part of the corresponding flap on the other side, and tie the ends so as to close the wound. Repeat this as often as necessary, and cover all up with the bandage as already directed. After four or five days the threads may be cut and removed, because they are no longer serviceable, and only serve to irritate the skin; and from this time the whole dependence must be placed upon the bandage in keeping the parts together. In some parts—as, for instance, the flank, a bandage can scarcely be applied; but even there it is wonderful how nature fills up an apparently irremediable gap. I have often seen a flap torn down by a spike, which has hung down from the flank for five or six inches, but at the end of a month scarcely any scar can be seen. The owner therefore need never despair as long as the skin only is the seat of the accident; but when the abdominal muscles also are torn the bowels are apt to protrude, and the parts, if left to themselves, will never regain their original condition. Here a circular stitch must be practised, so as to pucker up the parts like the mouth of an old-fashioned purse, and if the walls are thick enough the plan may be practised with success; but in the thin tendinous expansions covering the middle of the belly there is great difficulty in carrying out this plan of rectifying the injury. The mode by which nature heals all the wounds of the dog is by *granulation*, in which small red bladders are thrown out by both surfaces, which, after they are in contact for some hours or days, coalesce and form a bond of union; but if they are allowed to rub against each other this union cannot take place, and the growth is confined to the angle of the wound only. Hence the use and necessity of a bandage, which keeps the two surfaces in close contact, and hastens the cure in a remarkable manner; effecting in ten days what would often require ten weeks if left to the dog's tongue alone. When the granulations rise above the level of the surrounding skin, a

piece of bluestone may be rubbed over them daily; and if the whole sore is too red, and the granulations large and smooth, a little friar's balsam may be brushed over it; or, what is far better, a solution of nitrate of silver, of the strength of from three to eight grains to an ounce of *distilled* water.

Sect. 2.—Fractures.

Fractures may easily be treated in the dog by any person possessed of ordinary mechanical ingenuity. The bones most commonly fractured are those of the extremities; but almost all throughout the body are at times subject to this accident.

Fractures of the Ribs are very common from the kick of a horse, or from the thick boot of a man, who sometimes in his rage at the attack of a dog administers a blow with his iron-shod toe which is sufficient to destroy life, or, at all events, to break one or more ribs. When from any cause they are fractured, the best plan is to apply a horse girth round the whole chest, by buckling it smoothly twice round, or, if the size of the dog will not admit of this, the girth may be adapted to one circle only. This may be buckled so tightly as to prevent the dog using his ribs in breathing, and to confine him to the use of his diaphragm for that purpose, by which means the ribs are kept quite still, and nature in about three weeks unites the broken ends. For a broken shoulder-blade, or true arm, there is little to be done, nor in the case of a fractured pelvis or upper thigh-bone can much good be effected by interference. Nature will in all cases work a cure so far as to enable a new joint to be formed; but the animal is rendered useless for sporting purposes, and can only be kept for his or her breed.

In Fractures of the Limbs gutta percha splints, as here represented in a woodcut, for which I am indebted again to Mr. Mayhew's book on the Dog, will be found to be most serviceable. But if they are not easily procurable, then strips of deal will supply their place, and may be encircled with tapes to keep them in position. The first thing to be done is to adapt the splints to the leg, so that the parts shall be kept in a tolerably correct position while the inflammation is being subdued; for if the fracture has been the result of much violence, the consequent swelling will generally forbid the immediate and final putting-up, or "setting," as it is called, of the broken bones. For this purpose narrow strips of deal answer better than gutta percha, and three or four of them may be put on extending from joint to joint, and

Gutta Percha Splints.

not nearly encircling the limb, but allowing space between for the application of cooling remedies. Warm water fomentations answer for this purpose, and succeed better than cold lotions, and may be repeated five or six times a day, or even oftener, so as to keep the skin and hair constantly wet the first two or three days: and in the intervals the lotion of arnica, as given at page 701, may be applied with a sponge. If the leg swells much the tapes may be loosened, but all the time the dog must be kept constantly muzzled, or he will soon get rid of tapes, splints, and all. In a few days the swelling subsides, and the arnica lotion being still applied, the splints may be gradually tightened. At the end of from five to seven days the leg may be permanently "set," as follows:—Take a sheet of stout gutta percha of about the thickness of a penny-piece for large dogs, and of a halfpenny for small ones; measure the circumference of the sound leg with a piece of string at the largest and at the smallest parts, and cut off a piece of gutta percha as long as the broken part of the leg, measured from the joint above to the joint below the fracture, and of the width of the circumference of the leg, as indicated by the string. If the two pieces of string vary much, the gutta percha must be varied accordingly, so that it will nearly meet after surrounding the limb. When cut to these proportions it is to be soaked in water some degrees below the boiling point, at which this material is rendered too soft for our present purpose. It is then moulded round the *sound leg*, as shown in the annexed woodcuts: the right hand one of which is intended for a fracture

in which no wound of the skin occurs, whilst that on the left is purposely only partly surrounded; so that a compound fracture, as it is called, or one in which the skin, &c., as well as the bone are broken, may be readily dressed daily. Holes are punched in each side of the gutta percha, so that tapes may be inserted by which the edges are brought together, and the whole rendered quite secure. It is a very good mode of managing these accidents, as the gutta percha may be moulded to either the lower thigh or arm, or to the metatarsal or metacarpal bones. It should be kept on for at least six weeks or two months, during the whole of which time a muzzle should be worn; but after the first three weeks it is better to allow the dog to take a little exercise, as he will not put his leg to the ground if it gives him pain; and air as well as exercise are necessary to effect the process of union in its full perfection.

Sect. 3.—Dislocations.

Dislocations consist in a displacement of the end of a bone from its connexion with the one above it; and they may occur at the hip, stifle, shoulder-joint, or knee, as well as at the joints of the toes. The hock is seldom dislocated without fracture, but such an accident has been known to occur, and great trouble would be experienced in its reduction, on account of the shape and nature of the joint. Dislocation of the stifle-joint is not very common, it being very strongly guarded by ligaments, and broad also in the surfaces of the bones of which it is composed. The hip-joint is very often the seat of dislocation, and is one of the most intractable of all to manage. The socket projects in a prominent manner from the body of the pelvis, and when the head of the thigh-bone is thrown out of its cup it sinks at once deeply by the side of it, and can scarcely be drawn out of its bed by any force which can be applied. In the anterior extremity, the knee is the chief seat of this kind of accident, and it is dislocated quite as frequently as the hip, but its reduction is ten times as easy, because both bones can easily be grasped, and extension being made, they are speedily brought into a proper relative position. But though they are readily reduced, they are as easily thrown out again; and, therefore, great care is required to prevent this unhappy result. The elbow and point of the shoulder are seldom put out, because these joints are so securely guarded, that the bones of which they are composed are more inclined to break than to leave their sockets. In both the hind and fore-legs the toes are often put out; and, besides this accident, the tendons are apt to give way, causing the accident which is called "the letting down of the toes." The Treatment of all dislocations consists in putting the displaced bone back again into its socket as speedily as possible, for if allowed to remain long out of its proper situation it contracts fresh adhesions, and can scarcely be drawn away from them by any practicable force. The dislocated knee is reduced simply by pulling steadily the two bones away from one another; an assistant seizing the arm, and the operator making extension by laying hold of the foot and pastern. After it is reduced, a piece of list should be crossed in the form of the figure of 8 behind the joint, so as to prevent it from being straightened, and thus again displaced; and this position must be maintained for some time, in order that the torn ligaments may have time to unite. In the dislocated hip, unless very recently done, chloroform should be used, because the muscles of that joint are very powerful, and it will require great force to overcome their action without its assistance. The dog is first placed on a table, with a firm cushion under it; chloroform is then administered, by placing a sponge dipped in it in the end of a muzzle, such as is drawn at page 750. The holes at the side should be stopped, by pasting strong paper over them, so as to make a complete cone, one end of which is adapted to the jaws, and the other is closed by the sponge; so that the dog, when it is put on, can only breathe through the sponge. After a short time he snores and breathes heavily, and then the sponge may be withdrawn for a time, and the attempt made to lift the bone into its socket. I have, however, lately failed, even with the aid of this agent, in reducing a hip dislocated only for about ten days; and I am not aware of any case of more than a few hours' duration where a hip has been replaced. Nevertheless, in a valuable dog, such as that in which I made this attempt, which was a highly-prized puppy, presented to me, and of a very scarce breed, the attempt is worth making, especially as it occasions no pain.

Sect. 4.—Operations.

In Operating on the Dog, either a regular muzzle should be put on, or ordinary tape or cord should be applied to the muzzle, as indicated in the annexed engraving, binding it firmly round the jaws two or three times, and carrying it back to encircle the neck so as to prevent the dog from

getting it off in his struggles. This precaution is necessary to guard the operator against his bites, which in some dogs would be highly dangerous, as they do not always distinguish their best friends, though often they will submit to great pain without a murmur when they have long been sufferers. Chloroform may be used with great advantage (as directed in the third section) in those delicate operations where the struggles interfere with the due performance of the operation; for it is almost impossible to keep the dog perfectly still, and in operations about the abdomen the intestines are sometimes protruded by the efforts of the dog; whereas, with chloroform, all may be managed with perfect quiet, and the poor brute is relieved of his pain. A common scalpel, or a long bistoury, in the case of sinuses which require to be slit up, are the most useful kinds of knives; and the sportsman himself will seldom be able to manage more than the operations requiring these knives. The removal of injured toes, dewclaws, &c., and the slitting up sinuses or fistulas may readily be effected, or even the excision of small tumours, or the like; but more than that had better be left to the educated practitioner. The dog's skin should always be preserved as far as possible; and in removing any parts this texture should be left behind, trimming away any slightly ragged points which may appear likely to interfere with a perfect cure: but even these will often do more good than harm, and will fill up a gap which their removal would be sure to occasion.

BLEEDING is easily effected in the dog with a common lancet in the neck, if he is not unusually fat. The hair is cut off closely in a patch by the side of the windpipe, and then a string is tied rather tightly round the lower part of the neck; after which a vein distended with blood may be felt there, which may be readily opened by inserting the point of the lancet with some little force, owing to the thickness of the skin, and cutting out again. After the blood has flowed sufficiently, a pin must be inserted in the lips exactly as in horse-bleeding, and the ends twisted over with a piece of tow; but all this ought to be seen in order to be understood. If the neck is too fat, a vein on the inside of the fore-arm may generally be reached with the lancet.

PART V.

DISEASES OF THE DOG AND HORSE.

BOOK IV.—THE DISEASES OF THE HORSE, AND THEIR TREATMENT.

CHAPTER I.
FEVERS.

Sect. 1.—General Remarks.

The Fevers to which the horse is subject are of a very peculiar kind, and quite distinct in their nature and treatment from those of the human species or of the dog. For this reason the successful practitioner in one department is often wholly at sea in the other; and this is not only the case with fevers, but in all the other diseases of the horse. In man as well as in the dog there is a great variety of febrile diseases, but in the animal we are now considering they are generally reduced into two—first, simple fever; and secondly, symptomatic fever, or that attending upon inflammations or upon wounds, or other local injuries. But besides these I shall include catarrhal fever and malignant epidemic or typhus.

Sect. 2.—Simple Fever.

Simple Fever, or Common Catarrh, is almost always the result of cold, and is ushered in by shivering, followed by loss of appetite and spirits, with quickened pulse, unequal distribution of heat, so that often one leg is hot and the other three are cold, or *vice versâ*; dry and hot tongue, costiveness, and scanty urine of a high colour, and passed with difficulty. The breathing is generally somewhat quicker than natural, with more or less cough, but unless the lungs are inflamed there is seldom *much* acceleration. The disease generally runs a short course if uncomplicated with any of the inflammations hereafter to be described, in which case it runs into symptomatic fever. The Treatment consists in reducing the system in proportion to the amount of increased action going on. Many slight attacks may be removed without bleeding, but if the pulse is high, and all the other symptoms are in an aggravated form, two or three quarts of blood should be taken away, in order to guard against the occurrence of inflammation, which is to be carefully watched for. A smart purge, in the shape of the aloetic ball No. 8, is almost always required; but the horse should, if possible, be mashed on the night before, or he will be liable to colic from the colon and rectum being full of impacted fæces. If there is not time for this, castor oil must be given at once, and its action assisted after a few hours by a full clyster of warm water or gruel. When the bowels are freely moved, the following fever powder may be given two or three times a day, until the horse stales freely and his urine is of a proper colour, when the medicine may gradually be discontinued:—

Powdered nitre, 1 ounce.
Camphor, and
Tartarized antimony, of each 2 dr.

Mix. The water must be given in a warm state, and the corn wholly abstracted, giving bran mashes in lieu, but in small quantities only. The clothing should be warmer than usual, and if the legs are cold they should be bandaged with flannel. Plenty of litter is to be allowed, and the box kept as cool as possible unless the weather is very cold, when it may be maintained at a temperature of about 55 degrees of Fahrenheit. In a few days, unless some complication occurs, the fever subsides, and the horse may be walked out for a short time, and may afterwards gradually resume his usual food and exercise.

Sect. 3.—Catarrhal Fever, Influenza, or Distemper.

This, like simple fever, usually commences with a shivering fit, succeeded, however, by higher symptoms of fever than in that species. The eyes are red and sleepy-looking, the membrane lining the nose is pale red, and generally there is some discharge from it. This at first is watery, but it soon becomes thick, and after a time it has the consistence almost of an oyster, which it resembles as it gushes forth during the drinking of the horse, or other action requiring forcible expiration. Very often

the pharynx is sore, and the horse swallows with difficulty, even water appearing to give great pain as it goes down. The cough is generally very loud and frequent, and even occasionally painful to the horse, who expresses his sufferings by impatiently stamping with his fore-feet. Weakness rapidly gains ground upon the horse, and very soon he can scarcely stand; whilst at the same time the legs swell. The pulse is generally about 65, but seldom hard. This state seldom lasts many days, as the horse loses his strength so rapidly, that he either sinks or recovers in a week or ten days. The disease appears to depend upon epidemic causes, though it is nevertheless sometimes contagious, if we may believe the reports which have been handed down to us. Very often it goes on to inflammation of the lungs, and at other times ends in typhus fever, commonly called putrid or malignant fever. Inflammation of the lungs is distinguished from it by the following symptoms, which are well marked in the fever and nearly absent in the inflammation to which I am now alluding. These are—first, the very quick pulse; secondly, the early and copious nasal discharge; thirdly, the pale colour of its lining membrane, which is a deep red in pneumonia; fourthly, the frequent cough, with the soreness of throat; fifthly, the rapidly failing strength.

The Treatment of Catarrhal Fever will vary a good deal with the precise nature of the attack; but in most cases the horse will ill bear depletion of any kind, and hence the importance of distinguishing between it and pneumonia. Sometimes, though rarely, bleeding is indispensable, but never in large quantities; and more than three or four quarts should never be taken, and only in the early stage; a gentle dose of aperient medicine, such as the ball No. 9 or 10, will generally be required, and this should be assisted by a clyster, or by raking, so as to prevent any obstruction in the rectum caused by the mashing having been omitted for want of time. After the purge has acted, the fever mixture, No. 8, may be exhibited; and when the weakness is great, with a cessation of all the tendency to inflammation, the tonic ball, No. 3, should at once be used, with good gruel and warm mashes, and even sometimes port wine and ale.

Sect. 4.—Malignant Epidemic, Putrid, or Typhus Fever.

Putrid Fever commences either as simple fever, or as common catarrhal fever; but this soon goes on to produce great prostration of strength, with fetid breath, and discharge from the nostrils, and entire loss of appetite. Its course is much more rapid than in man, and more so even than in the dog. A congestive state of the vessels comes on, and they rapidly give way, by which life is soon destroyed. It is highly contagious, and few horses seized with it recover; indeed its nature is such that most proprietors determine to destroy the infected animal, in order to prevent its spreading. The Treatment most likely to succeed is a highly stimulating and supporting one, consisting of the following ball:—

Carbonate of ammonia, ½ drachm.
Powdered bark, ½ ounce.
Linseed meal and water, enough to make a ball, to be given three or four times a day.

The strength must also be supported with ale-caudle poured down the throat; or, if the bowels are relaxed, rice and port wine.

Sect. 5.—Molten-Grease.

Molten-Grease, a term formerly much used in farriery, is neither more nor less than a kind of critical diarrhœa coming on in gross horses attacked by fever, and it should not be too suddenly checked, though it is perhaps scarcely safe to allow it to run on many days. If, therefore, in an attack of fever there is this copious purging, let it be encouraged by giving decoction of linseed or gum arabic dissolved in water, so as to sheath the parts, and yet not absolutely to check the discharge. When the dung comes away in small lumps, a pint of castor oil should be given; the embrocations Nos. 1 or 2 may be well rubbed into the belly, and everything done to favour the removal of the disease, without positively stopping it by astringents. If, in spite of this treatment, the purging continues, a clyster of 2 drachms of opium, dissolved in a quart of starch, should be thrown up with great gentleness and care, which will generally succeed in quieting the mucous membrane.

Sect. 6.—Symptomatic Fever.

Symptomatic Fever being the result rather than the cause of inflammation, can scarcely be considered by itself. The simple fever often arises from exposure to cold, just as in the dog or in man; but this species generally arises from over-stimulation in some form, either by extra warmth, or more food than usual, or by over-riding or driving. Whatever the precise cause, the effect is always to produce a congestion in some internal organ, generally followed

by an inflammation, and accompanied by symptomatic fever. Thus, a horse is brought up from grass, and suddenly placed in a hot stable, with a liberal allowance of corn. In a short time his eyes become inflamed, his appetite fails, he has a violent cough, and he is what the trainers call "all to pieces." Now, this arises entirely from over-stimulation at all points, for not only is he kept in a constant state of increased heat, but the fire is fanned by feeding him with corn, and often by giving him any amount of work, to which he has not been accustomed. This is a constant occurrence with inexperienced horse-masters, and numberless eyes are lost through its means, to say nothing of inflamed legs and disordered stomachs. The symptoms in all cases are those of simple fever, except that very little shivering precedes it; but in addition we find quick and laborious breathing, with stony coldness of the legs and ears, if the lungs are inflamed; or in inflammation of the liver, yellowness of the eyes and mouth, with orange-coloured and scanty urine; and so on with the various kinds. The TREATMENT of symptomatic fever is always merged in that of its complication until it is reduced, after which, in some cases, the debility caused by the fever, *and by the remedies*, often requires peculiar supporting measures. There is in the horse of the present day a much greater disposition to sink than in those of former times, even within my memory; and more tonic medicines, as well as food, will often be required. This has arisen I fancy from the constant recourse to the lancet, which has been the fashion in veterinary medicine until the present time, and in human medicine until about 20 years ago. In both, I believe, it has led to a complete alteration in the forms of disease, which are not nearly so highly inflammatory as was formerly the case, nor do they bear such lowering treatment; whilst, on the other hand, they require, in many cases, a boldly stimulant plan of treatment, which a quarter of a century ago would have been justly reprobated as allied to insanity. Bark and ammonia are now often required to be given to the horse very early in an attack of inflammation—that is to say, as soon as the lowering measures, necessary in the first instance, have had their effect; and if, on the other hand, these last are pertinaciously carried out too long, the animal sinks from exhaustion into a state from which nothing will arouse him, and dies from a kind of putrid fever, or something very nearly allied to it.

CHAPTER II.

INFLAMMATIONS.

SECT. 1.—INFLAMMATION OF THE BRAIN AND NERVES.

STAGGERS, or APOPLEXY, appears to depend in all cases upon pressure on the brain, arising either from actual mischief within it, or from temporary congestion, owing to distension of the stomach, and hence called STOMACH STAGGERS; whilst the first form is called, from the symptoms, SLEEPY or MAD STAGGERS, according as the horse is rendered insensible, or more than usually excited. The disease usually begins with drowsiness, the eyes being inflamed and watery; the pulse is full, but not generally quicker than usual; bowels costive, and urine scanty. The next change that occurs is either a fit of insensibility or of furious delirium, both of which indicate pressure on the brain, though they have received the distinctive names above alluded to. In STOMACH STAGGERS there is a yellowishness of the eyes and mouth with a twitching of the muscles of the bosom, and great general feebleness rather than drowsiness. The fore-legs totter, and at last give way, after which the animal lies insensible, and can seldom be recovered. The TREATMENT is very different in the two diseases; free bleeding and purging, with turpentine clysters, will be required in the former, and will generally afford relief. If, however, the horse continues drowsy after their action, the head should be blistered, and a rowel inserted under the jaw, together with the internal use of nitre, tartar emetic, and digitalis, in doses of one ounce of the first, and a drachm of the two last, every four hours. STOMACH STAGGERS is more easily prevented than cured, and when fully developed is generally fatal. If it is clear that over distension of the stomach is the cause of the disease, and the brain is only affected by sympathy, bleeding will avail nothing, and strong local stimulants, or stomachics, as they are called, afford the

only chance. But the difficulty of diagnosis is very great, and the history of the case is the only guide to be depended upon, because the symptoms are so very similar in the one case to the other. If, however, the opinion is formed, one of the following drenches should be given, which will arouse the dormant powers of the stomach, and enable it to resist the decomposition going on within it, as well as to expel its contents:—

Tincture of ginger.
Compound spirits of ammonia.
Tincture of lavender, and
Sulphuric ether, of each 1 drachm.
Camphor mixture, and
Warm ale, of each 4 ounces. Mix.

Or,

Barbadoes aloes, 3 drachms.
Tincture of capsicum, 2 drachms.
Gin, 4 ounces.
Warm water, 4 ounces. Mix.

A stimulating clyster, as described at page 701, will also be useful; and by their aid the horse sometimes is enabled to resist the overpowering action of the swelling contents of the stomach, and to pass them on; after which a mild dose of physic and lower diet will complete the cure. But too often the disease goes on in spite of all remedies, and the horse dies from pressure upon the brain, arising from congestion.

MEGRIMS is clearly a temporary and slight congestion of the brain, arising from the excessive heat of a summer's day, or the pressure of the collar upon the veins of the neck, or from the excessive restraint of the bearing-rein. The attack comes on by the horse suddenly stopping and shaking his head, as if annoyed by his bit, or by something wrong in his bridle; to examine which the driver perhaps gets out, and while so doing the horse suddenly falls, or wheels round in a circle, and then goes down as if one side was deprived of all power. There he lies for a short period, varying from a few seconds to five or ten minutes: after which he raises his head, and stares about him, and then, if permitted, he will rise almost as if nothing had happened, and be ready to proceed as before, though generally in a profuse sweat. Sometimes, however, but very rarely, the horse dies in these attacks, and in all cases the danger to the driver is great, because it is impossible to foresee their occurrence; and, as they may take place on the unguarded side of a steep hill, or in fifty other dangerous situations, they are always liable to place the driver in a condition of extreme peril. When once they have occurred, they are likely to occur again, and for that reason the owner of a horse attacked with megrims had always better get rid of him; or, at all events, after a second attack, for many horses are known to have had only one fit of this complaint. To RELIEVE it, a few quarts of blood should be taken as soon as possible, and on the spot if the attack is very violent, or if not, as soon as the horse is in his stable. A dose of purging physic should also be given, and a few days' rest allowed, as well as a more than usually quiet and moderate style of driving.

LOCKED-JAW, or TETANUS, AND HYDROPHOBIA, are very similar conditions of the nervous system; not exactly inflammatory perhaps, but more nearly allied to irritation. In the former case the muscles of the body are rendered rigid by some accidental irritation, as a stake or pole driven into the chest, &c. The jaw is almost always the first part attacked, and hence its name of locked-jaw; but nearly all the muscles of the body are in bad cases rigid and unyielding, although this state at intervals gives way. Very little can be done in the way of TREATMENT, though some cures have been announced from opium, chloroform, and Indian hemp. Bleeding also is said to have worked wonders, and so has the wet sheet in the hands of the water doctors; but I have never yet known a well-marked case of tetanus recover; though there are, no doubt, cases in which slight attacks of locked-jaw have disappeared with the removal of the cause which produced them. A veterinary surgeon should always be called in in such a case, and his advice must then be followed, so that it is unnecessary to dilate here upon the details of treatment. HYDROPHOBIA is also a disease very closely allied to tetanus in all but its cause, which is from the bite of a mad dog or cat. It comes on with violent spasms of the body, of a somewhat similar kind to those of the above disease; and it is equally, or even perhaps more intractable; but the spasms are not persistent, and the horse after a time is very violent, and ready to attack everything that comes in his way; he froths at the mouth, and fights with his fore-legs; or else he is timid, and shrinking from all contact with man—a symptom as common as the mad variety. Water is always eagerly sought after, as in the dog. There is no cure, and the horse should at once be shot.

SECT. 2.—INFLAMMATION OF THE EYE AND MOUTH.

INFLAMMATION OF THE EYE comes on in several forms; the most *common* of which is sudden in its attack, and accompanied with very little symptomatic fever. The horse is well over-night, but on going to him the next morning, the groom thinks he has hit his eye, and if not experienced in these matters he takes little notice; the lids are swollen, the white of the eye covered with red vessels, and the transparent part of the *cornea* rendered opaque by a bluish-white film, of more or less extent according to circumstances. Sometimes, it is true, a blow has really occasioned the mischief, but more often it arises from cold; and sometimes, again, a piece of dust has lodged in the lids, and on being removed all is speedily right again. A DOSE of physic, with a bran-mash and an ounce of nitre in it, on two or three evenings, will generally put all to rights; especially if aided by the cooling eye-wash, astringents (No. 3 or 4).

REGULAR OPHTHALMIA is a much more virulent and unmanageable disease, though it comes on in the same way, and can only be detected in the early stage by the severity of the symptoms and the greater intolerance of light. The opacity soon becomes universal over the whole cornea, and the iris is also implicated, so that this beautiful dark curtain is often covered with white lymph, or even sometimes with pus or blood. After a time the symptoms abate, but only for a short period, and the end generally is that the eye is lost, often implicating the other one as well. The cause is generally connected with a change from cold to warm stables, with high feeding, and strong work. Horses require a much longer seasoning to the warm stable than is generally given them, and thousands are yearly sacrificed to a want of due caution in this respect. More eyes are lost in this way than by any other, and yet it is in many cases impossible to avoid the disease by all the care in the power of the most experienced groom. For this reason, some horses never will stand corn or stable management, and yet their eyes remain perfectly good at grass, even in the depth of a severe winter. The BEST REMEDY is a lowering plan of treatment, consisting of bleeding, either general or local, washes as for the simple inflammation physic and the fever medicine No. 8. Bleeding in the vein at the inner angle of the eye sometimes affords great relief, or a scarification of the vessels of the white of the eye; but the best remedy of all is a rowel in the cheek. This disease almost always leaves its marks behind, consisting of a peculiar semi-opacity of the transparent part of the eye, with a muddiness of the coloured part, called the iris, and sometimes some faint indications of approaching cataract, in the form of a deeply-seated white speck in the middle of the pupil, or of white lines diverging from its centre to its circumference. The eye is also somewhat contracted by the dislike which the horse has to light; and hence an affected eye will look smaller than its sound fellow, though in reality there is no change in the actual size of the ball.

CATARACT is an opacity of the lens in the centre of the eye, and is generally the result of the above inflammation, though sometimes in purely hereditary cataract it comes on gradually, without the slightest evidence of inflammation. At first there is only slight milkiness of the pupil, which gradually increases until it becomes perfectly white. When inflammation is the cause, the cornea is seldom of a pure white, but more or less yellow; and, in very old horses, when cataract comes on, the radiating lines from the centre to the circumference are very strongly marked. No REMEDY can be brought to bear upon cataract, and the horse affected with it is incurably blind.

AMAUROSIS is also almost always an incurable disease, and for all practical purposes it may be considered as such. The eye looks sound, and there is no opacity of any kind; but, nevertheless, the horse is blind, and likely to remain so. It is an affection of the nerve, and beyond the power of medicine. The only thing likely to relieve it being a rowel under the eye.

LAMPAS consists of a swelling of the ridges in the roof of the mouth, which are called the "bars," coming on chiefly in young horses. The horse is seen to drop his corn, from an inability to chew it, owing to the pain given in the attempt; and on examining the mouth the bars are seen to be level with the teeth from the swelling. The TREATMENT required is only a dose or two of physic, with the absence of corn, and the substitution of bran mashes at night, with an ounce of nitre added to every other one.

CANKER OF THE MOUTH generally arises from the pressure of the bit, and a few touches of bluestone will generally rectify the evil.

SECT. 3.—INFLAMMATION OF THE LUNGS, &c.

PNEUMONIA, as this disease is called in

scientific language, is one of the most dangerous diseases the horse is subject to in the ordinary way, and it is also one of the most common. It is generally mixed up with PLEURISY, or inflammation of the pleura, though most writers pretend to be able to distinguish the one from the other. The symptoms are—first, general feverishness, with dulness; secondly, heaving of the flanks of a hurried nature, with a quick pulse; thirdly, cough, dull and hollow, and attended with some pain. Soon afterwards the respiration becomes very quick and laborious, the pulse increases in frequency, and yet is small and without power. The horse looks anxious and uneasy; the nostrils are expanded, and show a deep red lining to them; the eyes become fixed, and the head is held down. At this time the ears and legs become deadly cold, and the horse is so distressed that he refuses to lie down until forced to do so by weakness, from which he seldom rises again. The TREATMENT should be energetic in the early stage, bleeding being the sheet-anchor in these cases, and pretty copiously too; it should generally be carried far enough to produce fainting, less than six quarts seldom sufficing for the purpose. A pretty active purge, in the shape of the castor oil drench No. 18 will suit the state of the horse better than aloetic balls, because there is seldom time for mashing. A warm clyster may also be thrown up, either of water or gruel, with a double handful of salt. BLISTERS on the sides of the ribs are of great service, and in the less severe and more chronic form, rowels should be inserted in the sides of the chest behind the elbow. Hand-rubbing of the legs, followed by flannel bandages, will serve to restore the languid circulation in the extremities, and warm clothing to the body must keep the whole skin from chilling, as it will do when exposed to the cool and well ventilated air which the state of the lungs requires. The stall or box should never be kept at all close, for fresh air is of as much importance in this disease as all the other remedies put together. Nitre, digitalis, and tartarised antimony should always be administered in the form of a ball, until the cough becomes loose—

Nitre, 1 ounce.
Digitalis ½ drachm.
Tartar emetic, 2 drachms.

Mixed with linseed meal and water to form a ball.

When the first bleeding has not subdued the inflammation, it should then be repeated, but not without due care, and seldom with advantage after the second day. After a time, when the weakness is the only remains of the disease, stomachic medicine and generous diet will raise the strength of the horse rapidly, if no amount of organic mischief has resulted. But if the inflammation has gone on to produce destruction of the cells of the lungs by exudation of lymph or pus, there is always a long recovery; and, generally speaking, the wind remains permanently short and often thick. Sometimes even the condition called "broken wind" comes on as a finale to this condition; but generally it is rather a sequel to other states than to this.

INFLAMMATION OF THE BRONCHIAL TUBES, or BRONCHITIS, is only a severe form of catarrh, of which it is a frequent termination. It may be treated by some of the expectorant balls given in the list of drugs. No. 5 or 7 are those most likely to suit this condition of the system.

CHRONIC COUGH is a very usual sequel of catarrh, and sometimes also of pneumonia. Besides these causes it is also brought on by sudden change of treatment, from a cool field at grass to the high temperature of the stable and the stimulating food given in the manger. It is merely a chronic degree of inflammation of the bronchial membrane, and it can only be relieved by such measures as will reduce that state. In many cases it depends upon a disordered condition of the stomach, which appears to affect the bronchial membrane by sympathy; and, again, in other cases worms are the immediate cause. The cough balls No. 5, or those called stomachic cough balls, No. 6, will generally suit this particular condition of the mucous membrane.

ROARING is an affection of the top of the windpipe, by which a noise is produced when the breathing is accelerated, similar to a snore in note, but much quicker and sharper. There are various degrees of this noise, from the marked roaring which may be heard a hundred yards off, to the slight whistling noise of the "whistler," or the almost inaudible sound produced by the "high blower." In all cases, however, there is a mechanical impediment to respiration, and the only question is as to its seat. Sometimes a larynx has been examined in which no trace of disease could be discovered, whilst in a few cases thickening of the lining membrane has been noticed; and in others a wasting of the muscles has been pronounced the only deviation from the natural condition. It appears, therefore, that roaring is produced, first, by thickening of the mucous mem-

brane; secondly, by distortion of the cartilages of the larynx; and thirdly, by a paralytic condition of the muscles moving the top of the larynx itself, so that the chink through which the air passes is not kept open by their power. Inflammation is generally the cause of this mischief, unless it is produced by the bearing-rein, or by the crib-biting strap round the neck, or by the hands of the buyers in the various sales at which some horses are exposed. If twenty or thirty *horse-coupers* are constantly "coughing" a horse, it is not to be wondered at if he becomes inflamed in the organ which has been so punished. Some horses stand this ordeal for three or four successive sale-days, and then begin to exhibit the chronic cough which they have hitherto obstinately refused to show to their tormentors, who are never satisfied till they have made the horse they are examining cough in some way or other; and to do this they do not hesitate to stick the end of their finger into the space between the cartilages in the most ruthless manner. There is another controversy as to the *time* when this noise is produced, whether during expiration or inspiration. My own belief is that the grunt which the dealers produce by their threat of the stick is made during expiration, but that roaring is *chiefly* heard during inspiration; though in very bad cases it will be detected not only in inspiration, but also in the opposite condition of the lungs. It is now a frightfully prevalent complaint, among race-horses especially, in whom the early stabling and the quantity of corn given them appear to have the effect of producing it. With very slow work it does not materially interfere, but whenever the horse is pushed beyond eight or ten miles per hour, or in bad cases even on the trot, the noise is immediately heard; and the respiration is more or less affected by the impediment producing it, whatever that may be. One of the most common causes of roaring is the inflammation attending upon strangles, and generally from neglect during the attack, or from the employment of the horse before he has recovered from it. In badly managed racing stables this is very apt to be the case, because every trainer is anxious to resume work as soon as possible; and is therefore very apt to begin as soon as the worst symptoms have subsided, and before the parts about the larynx have recovered their tone. If they were allowed time, in many cases the effects would go off; but by the use of this delicate part while still in a weakened state, and often while suffering from chronic inflammation, this last condition becomes permanent, and either a thickened state of the membrane remains, permanently obstructing the passage, or the nerves of the part lose their delicate sensibility to external impressions, and refuse to open the aperture of the larynx to a proper width for the due admission of the air. It is a much-vexed question, whether roaring is hereditary; that is to say, whether a horse descended from a roaring sire or dam is more likely to be attacked by the disease than one which is the son of sound progenitors. It appears to me that there is little doubt that he would be more likely to turn out a roarer in the former case than in the latter; but still there can be no question that many unsound horses are the sires of sound stock, and *vice versâ*. Roaring is an effect, not a disease in itself, and unless the cause is known it can scarcely be predicated whether a horse is likely to transmit the condition to his stock. If it is the result of *neglected* strangles, for instance, in an otherwise sound larynx, it is not likely to be transmitted; but if the horse is naturally of a delicate constitution and liable to cough, *that* will be almost sure to reappear, and, as a consequence, the effect called roaring. As regards TREATMENT, when roaring is once fully developed, all the powers of the whole veterinary college would fail to effect a cure; but in preventive measures much may be done, if only horse-masters and trainers would be careful in every attack of disease about the throat to treat it vigorously, and to throw the horse by during its persistence. In strangles, for instance, the thickening and swelling of the glands often lasts for several weeks, owing to proper measures not being adopted at once. The same applies to chronic cough, which should never be neglected; and which, I believe, in the roaring of race-horses is in nine cases out of ten its precursor. The corn is too often continued for the sake of condition, when the horse ought to be as cool as possible. Chronic cough is almost always inseparably connected with bronchial or laryngeal inflammation, and if the latter condition is present roaring is always threatened. For this reason this state of things should always be attended to, and the horse should be considered an invalid as long as his cough lasts; his corn should be stopped, and proper remedies adopted, or he will incur the risk of the *permanent* mischief which I am now considering. How often we hear that a race-horse is "coughing," and even witness his efforts on the course to relieve himself, yet how seldom is a

horse stopped from running by such a state. Owners do not like to be disappointed when a large stake is invested; and especially when it is known that in many cases a horse may "pull through" with a cough on him. But the result is that the cough is rendered worse, and is not perhaps cured for a long time; while a few weeks or months afterwards a slight "noise" is heard, and soon afterwards he becomes a decided "roarer." Such is generally the course of things, and though many men will tell you that roaring has made its appearance without any notice, yet, I believe, in almost all cases it will be found that it has been preceded by more or less cough and attendant laryngeal inflammation.

STRANGLES is an inflammation of the mucous membrane of the throat and nose, with swelling of the salivary glands about the angle of the jaw. It is very similar to mumps in the human subject, and, like that disease, it is almost confined to the growing period of life—occurring, in ninety-nine cases out of a hundred, in the colt between the second and fifth years. There is generally a discharge of white and thick matter from the nose, with a difficulty of swallowing, and some little feverishness; the glands swell to a great extent, and the inflammation generally goes on to form an abscess, which bursts sooner or later, leaving a cavity that takes some time to heal. When suppuration goes on kindly, the mischief subsides without leaving any ill effect; but if the abscess does not proceed healthily, the glands become enlarged to a frightful extent and press upon the larynx, so as to impede its functions; besides which, the inflammation extends to that important organ, and from this cause the result to which I have alluded in the last paragraph so often takes place. The great swelling of the glands, and their not adhering to the jaw, as well as the suddenness of the attack, are almost certain distinguishing marks of the disease. When this is clear the TREATMENT should at once be commenced, as follows, by which all risk is avoided, and the glands are at once stimulated to form matter, that being the natural termination of their inflammation. In the first place, the hair should be carefully removed by the scissors from the whole of the parts swelled, as well as from about three inches beyond that space in all directions; then rub into the glands for half an hour, with the hand, the following liquid blister:—

Strong mercurial ointment, 4 ounces.
Oil of origanum, ½ ounce.
Powdered cantharides, ½ ounce.
Olive oil, 2 to 4 ounces,

according to the weather; the former quantity sufficing in the summer, but the latter being required in cold winter weather, to make the application liquid enough to rub into the throat. This will speedily increase the inflammation and swelling in the external parts; but the action is a *healthy* one, and it relieves the internal and important organs (as the larynx and its nerves, for instance), so as to prevent any mischief to them. After two or three days the swelling and discharge from the skin produced by the blister abate, and in the meantime the parts should be well fomented, three times a day, with very hot flannels wrung out in boiling water. This treatment generally brings the matter to a head in about four or five days, after which the abscess is to be treated as a common one; but if it does not burst by that time it may be opened with a lancet, though I am strongly of opinion that nature manages the best opening in most cases. Whichever is the mode of procuring the opening, it must be maintained afterwards patent, by means of a thick piece of lint dipped in the digestive ointment given at page 699, and left in it. Poultices are not, I think, advantageous, because they cannot be maintained at a proper temperature, and the warm water fomentations answer all the purposes which they are intended to effect, without leaving a cold application in the interval to undo all the previous good, which in the poultice is invariably the case. The constitutional remedies are merely an aperient ball at first, with another or two at intervals, if required, and either of the fever balls Nos. 4, 5, or 6, night and morning; or, if the colt is very feverish, the cooling drench No. 8. Bleeding is very rarely desirable, as its effect is to reduce those powers of nature which are required to produce the suppuration; and it often makes the case which would be short, sharp, and easily cured, a long and tedious business, in which the glands will neither come forward to suppuration, nor go back by resolution. When the suppuration is thoroughly established, a generous diet of linseed and bran, or carrots and bran, with hay steamed, if possible, is the best which can be adopted. When a cough lingers behind, it must be treated as for chronic cough, which it may be considered.

THICK WIND is merely an imperfect condition of the respiratory organs, from a variety of causes—such as excessive fat, want of exercise, old standing inflammation and its results, or a naturally defective for-

mation of the chest. But, in ordinary language thick wind means such a condition as cannot be got rid of, though it may be relieved, and which remains in spite of the most careful training. Every horse when overloaded with fat, is more or less thick-winded—that is, he will "blow" on the slightest exertion; but he could not be called thick-winded, because his state is only temporary, and by careful preparation his wind may be made as perfect as possible. The disease almost always consists in a solidification of the lungs from pneumonia, so that the air cannot enter the cells, which are filled up with lymph, or a substance resembling it, but of a colour generally blue, mixed with red. From this cause, horses with capacious chests by nature, are often bad winded, because, though the cavity is large, great part of the lungs is rendered useless. Time occasionally effects a cure, but, generally speaking, no TREATMENT other than palliative, is of any avail, and that can only be directed to the stomach and general system. This organ may be so managed as to husband the lungs—that is to say, it may be kept moderately empty whenever the horse is to be worked, and in this way it will afford more space than usual for the lungs to play, or as much of them as are still sound; and, consequently, what cells there are open will be more fully employed than in a loaded state of the stomach. In the same way the liver, if properly emptied, by good management will aid the lungs materially, and therefore attention to both these organs is of the greatest consequence; beyond this nothing can be done.

BROKEN WIND is often a sequel to thick wind, both being preceded by inflammation. But as in human medicine so in veterinary medicine, doctors will differ, and thus we find one veterinarian of great eminence maintaining that in this state air cannot easily enter the lungs, but is readily expelled from it, while most others agree in thinking that the broken-winded horse can inspire air readily enough, but requires too powerful acts of the muscles of respiration to effect its expulsion in expiration. Any one of ordinary observation who examines the horse in this state, will readily observe that the latter opinion is the correct one. The poor animal draws his breath quietly enough, but when he attempts to empty his chest there is a "flap" of the diaphragm, which is of a spasmodic character, in consequence of its having more to do than it can well manage; and this first flap is followed by another, aided by the whole of the muscles of the abdomen and ribs. The first action is the natural expiratory effort, which being foiled in effecting its results, by the valvular character of the enlarged air cells, calls into play the auxiliary muscles of respiration, and together they overcome the resistance. The disease consists in an enlargement of the air-cells, by a breaking down of their partitions, and in many cases by the formation of new ones of an unnatural character, caused by the giving way of the cellular membrane which connects the various lobes together, and which giving way is called *emphysema*. The consequence is, that when these cells, often as large as walnuts, are filled with air, *and pressed upon* by the walls of the chest to effect expiration of the air they contain, their large size causes them to be forced upon the small opening by which the air enters, and by consequence they act as a valve to their own contents. If a common bladder is filled with air, and in that state pressed against some adjacent substance, in such a way that its neck, or opening, is pushed against it, the tube is obliterated by the pressure, and it requires considerable force to overcome its resistance; whilst if it were left alone with the opening upwards, or free in any direction, it would by its own elasticity effect its own relief. In the lungs, however, of the broken-winded horse the cells have lost their elasticity from over-distension, and they depend entirely upon the walls of the chest for the necessary pressure; for which reason it is that there exists the necessity for the double effort. The CAUSE of broken wind is, I believe, in all cases the violent galloping of the horse while suffering from the effects of inflammation. This may be either at grass or while at work; but I doubt much whether the horse kept absolutely at rest will ever become broken-winded. He will often become exceedingly thick-winded, so much so as to be unfit for work of any kind; but until he is put to work, or else gallops of his own accord, he will not produce the valvular condition of the cells which is the essence of the disease. I have often been told of a horse going out to grass sound and being taken up broken-winded; but on enquiry I have ascertained either that he had been galloped a good deal to catch him, or that he had done so of his own accord, or else *that the state of his wind was not observed* till after he had been put to work. Turning out to grass is a fertile source of this disease, because when exposed to the weather, the horse is constantly liable to pneumonia, and, as a con-

sequence, to a solidification of the lungs, which soon ends in a breaking down of the cells (*Emphysema*), if he is used fast, or himself tries them by his gallops. There is no cure for the disease, but much may be done by pallistive TREATMENT. The horse should be kept very cool, both in point of temperature and feeding; mashes of bran and carrots, with a small quantity of corn, form the best food. The hay and water should never be given in large quantities, and green food will generally suit better than dry, because it soon passes out of the stomach; but it should never be given in an unlimited amount, or it will do more harm than good. If there is cough present, the expectorant ball, No. 5, will be of service, and it may be given every night for a week or two, but beyond that time it will rarely be of any service. Steady regular work will often keep the horse in such a state that he can manage to carry on his breathing tolerably well; but strong or fast work, or entire idleness, have both of them an equally prejudicial effect; the former by still further increasing the enlargement of the cells, the latter by increasing the tendency to thickening and solidification which produced them.

PHTHISIS PULMONALIS, the consumption of the human subject, is not unknown in horse medicine, and it is evinced much in the same way. There is chronic cough, with great emaciation, and in the latter stages usually obstinate diarrhœa; the horse sinks at last, worn out by the discharge, and dies of exhaustion, or suffocated by the quantity of matter which he is unable to expel by coughing. There is NO REMEDY for the disease, and though the cough may be alleviated by the ordinary expectorant balls, the disease, nevertheless, runs its course. It may be possible to postpone the fatal event for a time; but as the powers of the horse are always so much reduced as to prevent his working, it is quite useless to attempt any such treatment, which in man can only be justified by considerations founded upon other motives than those which concern the comfort of the individual.

CARDITIS, OR INFLAMMATION OF THE HEART, is also not unknown in the horse; but its symptoms are too obscure for the sportsman to be able to detect. It is followed by DROPSY OF THE HEART, or enlargement, called HYPERTROPHY.

SECT. 4.—INFLAMMATION OF THE ORGANS OF NUTRITION.

GASTRITIS is almost unknown as a separate disease in the horse, except as the result of poisoning. ARSENIC, wilfully given, is the most common poison, because it may be administered with the food in consequence of its freedom from any disagreeable flavour. CORROSIVE SUBLIMATE is sometimes the cause of inflammation when used as a wash for mange; and YEW is the only vegetable poison which is likely to be selected by the horse as food, either by itself or when cut and dropped among the grass upon which he is feeding. The castor oil drench, No. 18, should be given with plenty of liquid in the shape of gruel to work it off, whether one or the other of these is the particular poison. If arsenic has been administered in large quantities, the stomach-pump should be used; but its application in all cases should be left to the regular veterinary surgeon.

STOMACH STAGGERS has already been described under the head of diseases of the brain and nervous system; for although the cause is in the distension of the stomach, yet the fatal effect is produced upon the more vital organ, the brain.

ENTERITIS, or inflammation of the peritoneal coat of the bowels, is common enough in the horse, and is a very fatal disease.

COLIC also is very common, and is a spasmodic affection, more or less complicated with inflammation, of the muscular coat of the bowels.

DIARRHŒA or DYSENTERY is a third kind of inflammation of the bowels, confined to the mucous membrane lining them. The symptoms of each are different, but as it is very necessary to distinguish between them on account of the variation in the treatment necessary, I have here inserted the symptoms in parallel columns, so that when there is evidence of something wrong in the bowels, the particular affection may be ascertained by comparing the symptoms of the three diseases.

ENTERITIS.	COLIC.	DIARRHŒA.
FEVER, with great restlessness, preceded by a shivering fit, and coming on gradually. Mouth hot and	NO FEVER; attack sudden, and not preceded by shivering. Mouth dry, but not hot. Pain very severe, but	SLIGHT FEVER, with restlessness. Pain coming on suddenly, and in paroxysms, but not so severe as in colic.

Enteritis.	Colic.	Diarrhœa.
dry. Pain constantly very severe, and increased by pressure or movement; it is expressed by constant pawing, and striking at the belly with the hind-foot; together with groans. Pulse quick, but small. Ears and legs cold; strength rapidly reduced; bowels costive. Cause.—Sudden exposure to cold, either internally or externally. Treatment. — Large bleedings; clysters of warm water and salt, or of thin gruel, with half a pound of Epsom salts. Calomel and opium, of each half a drachm to one drachm every six hours. Bran mashes, and no corn or hay. Strong stimulating embrocation (No. 1) to be rubbed into the belly and flank.	coming on in paroxysms, with an interval of entire ease between them. It is relieved by pressure or motion. Pulse full, and somewhat quicker than natural during the paroxysms, but at other times unaltered. Ears and legs of the natural warmth; strength not much affected; bowels costive. Horse rolls violently, and there is profuse perspiration during the paroxysm. Cause. — Drinking cold water after work. Green food given in large quantity without preparation. Treatment. — The antispasmodic clyster (No. 5), with the drench (No. 6), followed by the anodyne ball (No. 5), every five or six hours. The stimulating embrocation and diet as in enteritis.	Breathing laborious. Constant looking at the flanks. Pulse quick and small, but not so much so as in enteritis. Mouth moist, and the legs and ears warm. Constant and violent purging, distinguishing it from colic, and also from enteritis. Cause.—Strong physic, or the working horses too soon after it. Sometimes green meat will produce it when given too suddenly to the horse previously fed upon hay and corn. Treatment. — Give the anodyne drench (No. 7), followed by the ball (No. 6). Rice-water to drink.

Intussusception and Entanglement are peculiar mechanical complications of colic, which no skill can detect with certainty during life, and which no remedy will remove. In each instance there is a stoppage, caused by a kind of twisting, in the former case the one bowel slipping into the other like an inverted finger of a glove; and in the other, a species of knot of some kind being formed.

Calculi, also, consisting of hairy concretions, are occasionally the cause of stoppage, by filling up the calibre of the bowels.

Inflammation of the Liver is a very frequent disease in the horse, and is generally the result of cold. It comes on with fever generally, accompanied by diarrhœa, but sometimes the opposite state being present. There is great yellowness of the eyes and mouth; dark orange-coloured urine, sometimes almost red; great weakness and pain in the region of the liver. The disease is either acute or chronic; in the former case often proceeding rapidly to a fatal termination; in the latter taking a long course, and then ending in dropsy, or extending to the bowels. The Treatment consists in bleeding in the early stage, but not afterwards. The sides should be blistered, and for this purpose nothing answers so well as the ointment of the biniodide of mercury (see blister No. 6), which acts as a counter irritant, and also specially upon the liver. The following ball may also be given every eight or twelve hours, according to the severity of the attack:—

Calomel,
Opium,
Tartar emetic, of each ½ to 1 drachm.

If the bowels continue costive, a physic-ball, No. 8, may be given in lieu of one of those just ordered. Sometimes Jaundice occurs without much or any inflammation, either from some mechanical obstruction to the gall ducts, or from the torpid condition of the liver. In this case, the biniodide, rubbed in as above, is the best external application, with the purging-ball No. 11 every other night; or not so frequently if it acts upon the horse much. In a short time the liver generally acts, and if there is much weakness of the stomach, the alterative ball No. 9 may be substituted for the above, and the stomachic ball No. 3 or 4 given on the alternate nights.

Sect. 5.—Inflammation of the Urinary Organs.

Inflammation of the Kidneys is more common than is generally supposed,

and produces great mischief, local as well as constitutional, when allowed to run its course unchecked. Fever is the invariable attendant, as upon most inflammatory diseases of vital organs, but here in a more marked degree than usual. Next may be observed a stiffness and pain in the back, increased by turning in the stall, or by pressure on the back. This last symptom is common in strains and in rheumatism; but then there is no disorder of the urinary apparatus, and the water is natural and in good quantity; here it is scanty and high-coloured, occasioning pain in its passage, with great straining, caused by the irritation of the urine loaded with salts; pulse quick and hard, generally small and wiry. These symptoms are all present in inflammation of the bladder also; but the two may be distinguished by passing the hand into the rectum, and examining the bladder itself, when, if it is the seat of the disease, its pressure will give great pain, and it will be found thickened, and the parts adjacent hot and throbbing; whilst, if these are healthy, the kidneys may be considered to be the real seat of mischief. The CAUSE of kidney inflammation is generally mowburnt hay or musty oats. Kiln-dried oats appear to have the property of stimulating the kidneys. Exposure to cold and wet is another cause constantly occurring. The TREATMENT consists in prompt and active bleeding; blistering the loins (not with cantharides, which have a specially stimulating effect upon the kidneys) with the biniodide of mercury ointment A purge is next to be given, followed by calomel, opium, and tartar emetic, of each ½ to 1 drachm every twelve hours. No diuretic should be given but plenty of lukewarm water, bran mashes, with boiled linseed in them. Warm clothing and flannel bandages are to be added to the other remedies, and cold draughts of air should carefully be excluded from the stable.

DIABETES, or profuse staling, is the result of improper food or medicines, in most cases. At first the disease consists merely in an increased secretion of urine, the horse staling frequently, and passing a considerable quantity of pale and transparent urine, almost resembling spring water. After a time the horse becomes feverish, the mouth is dry, there is great thirst, with loss of appetite, and quick pulse; there is often the condition of skin called hide-bound. The CAUSE is from some error in the management, which should in the first place be corrected, and then the following TREATMENT will generally be of service:—

Opium, 1 drachm.
Powdered ginger, 1½ drachm.
Powdered yellow bark, 4 drachms.

Linseed meal and water enough to make into a ball, which is to be given twice a day.

If fever is present to any extent, or the horse is hide-bound, give

Emetic tartar, 2 drachms,
Opium, 1 drachm,

made into a ball with linseed meal and water, and given as above: and after a few days the following ball:—

Sulphate of iron, ½ ounce.
Myrrh in powder, 2 drachms,
Ginger, 1 drachm.
Powdered Calumba, 3 drachms.

Mix with linseed meal as above, and give night and morning.

The astringent drench, No. 10, may also be tried.

THE DIET should be nutritious, yet easy of digestion; and the horse should have from half-a-pint to a pint of lime-water mixed with each bucket of his water, which should be constantly left in his stall, so that he may drink it in small quantities frequently; whilst the taste of the lime will prevent him from taking too much at a time, and will also act as an astringent upon the kidneys.

SUPPRESSION OF URINE, in one form, is the result of inflammation or congestion of the kidneys, and, as the name implies, is evidenced by the horse being prevented from "staling." This, however, may arise either from the kidneys not acting, which has already been described, or from the bladder not being able to pass on its contents in consequence of spasm of its neck. Costiveness is a very frequent cause of this condition, and when this is present, the horse should be carefully raked with the hand, and a warm enema of gruel administered, to be followed by a laxative drench (No. 18), and afterwards, if the difficulty continues,

Nitre, 1 ounce,
Camphor, 1½ drachm,

made into a ball, and given every night. Warm bran mashes, with linseed, should be given, and no corn.

BLOODY URINE is the result of stone in the kidney or bladder, which irritates those organs, and causes them to exude blood. It should always have the aid of a regular veterinary surgeon, as the health and life of the horse are at stake. An astringent ball (No. 9) has, however, been given among the medicines for the horse, because in some cases the aid of a regular practitioner cannot be obtained.

INFLAMMATION OF THE BLADDER is not very uncommon in the horse, and is either of the body or the neck. I have already alluded to the mode of distinguishing inflammation of the kidneys from that of the bladder, upon which the treatment will in a great measure depend, because when the kidney is affected, bleeding is of great utility, whilst in inflammation of the bladder it is seldom required, but the reliance must be placed upon anodynes and demulcents. The CAUSE is generally either stone in the bladder, or some peculiarly irritating condition of the urine; and, in either case, half-an-ounce of carbonate of soda, and some linseed, must be given with the mash two or three times a day. If the spasm is very urgent, give the following ball every eight hours:—

Opium, ½ to 1 drachm.
Camphor, 2 drachms.

Mix together with one or other of the demulcent drenches.

SECT. 6.—ORDINARY DISEASES OF THE SKIN.

SURFEIT consists in an inflammatory condition of the skin, in which small lumps make their appearance all over the body, but especially over the sides and shoulders. At first there is merely an elevation of the skin, which in horses whose coats are fine is very visible; but after a few days a scab forms, and in process of time comes away broken up into scurf, and often bringing with it a large proportion, though not all, of the hairs mixed up with it. It generally comes on in the hot summer months, and often after eating green meat or drinking cold water when warm from exercise. These should therefore be avoided with care on all occasions, especially as they are also likely to produce colic. The appropriate REMEDIES for surfeit are a mild laxative, repeated every fifth or sixth day (No. 9 or 10), followed by a few doses of nitre in a bran mash. Sometimes when the horse is very full of corn, and evidently in an inflamed state, bleeding may be necessary; but I confess I do not like the constant recourse to the fleam on all occasions, which is highly prejudicial to the constitution of the horse.

MALLENDERS consists in a scurfy eruption at the back of the knee-joint, which is occasioned by foulness of the blood, and requires alterative and cooling physic, and the application of the nitrate of silver ointment, or that of the superacetate of lead (see the astringent ointments, Nos. 15 and 16).

SALLENDERS is a similar eruption in front of the hock, requiring the same treatment as mallenders.

SORE HEELS are occasioned in the same way, aggravated by the water which is used in washing the legs and feet. When they are very bad they should be carefully dried on all occasions, and a little of the lead ointment, astringent No. 15, applied in all cases before going out into the wet. The horse also generally requires a little cooling physic, such as a physic ball, with an ounce of nitre in the mashes before it, as well as occasionally after the ball has "set."

GREASE is an aggravated form of sore heels, which usually occurs in hairy-legged cart-horses that are kept in dirty and crowded stables upon beans, without a due admixture of good hay and bran. Sometimes the disease extends above the fetlock joints, and there is great swelling with cracks and ulcers in the skin, and a profuse discharge of a foul and offensive matter. The horse is lamed by the pain given in moving the leg, and he will only put it to the ground on compulsion. The TREATMENT must be both general and local; a smart purge will in all cases be necessary, often coupled with bleeding, and followed by the diuretic ball, No. 1, which may be given every other night. At the same time the local treatment must be as follows—first, remove all the scabs either by long-continued soaking in a bucket of warm water, or by putting on a bran poultice; secondly, apply a strong astringent in the shape of an astringent powder, No. 12, or the sulphate of copper wash, No. 14, which may be applied with a sponge or a paint-brush; and, when dry, the following ointment may be rubbed in:—

Venice turpentine, 1 ounce.
Powdered alum, 1½ ounce.
Lard, 5½ ounces. Mix.

Exercise must be given by walking the horse out in dry weather; and plenty of hand-rubbing to the sound parts will give tone to the neighbouring vessels. Sometimes grease is the result of debility, and then, instead of the diuretic ball, it will be better to give one or other of the tonic balls, of which the last, containing arsenic, is the most likely to be beneficial; but its administration is attended with some little risk, and it is scarcely safe for any one but the regular practitioner to give it, except in cases of which the result is of little consequence.

Sect. 7.—Inflammation of the Feet and Legs.

Fever of the Feet, which is the horseman's name for inflammation of this part, is a local affection, coming on from a variety of causes; as, for instance, over-riding, or from severe cold, or sometimes as a sudden change from severe inflammation in other parts. The most common cause is hard riding or fast driving in hot weather, and over hard roads, which will produce such an excessive reaction in them as to lead to inflammation, and sometimes a shedding of the whole of the insensible horn, or "casting of the foot," as it is termed. Sometimes, however, on the abatement of acute pneumonia, or some similarly important disease, the feet are suddenly attacked by inflammation, just as if they had been ill used in work. In order to understand the nature of these various diseases, and the parts to which reference is made, the anatomy of the foot, given before in the article "Shoeing," must be carefully studied. The symptoms are as follows:—There is first of all great fidgettiness of the fore-legs, with frequent shifting of them, but no pawing, which would increase the pain. There is some fever, more or less according to the cause, with quickened pulse. The attitude is very peculiar soon after the commencement of the attack, where, as is generally the case, the disease is confined to the fore-feet. The horse bears nearly all his weight upon the hind-legs, which are brought under him for that purpose, while the fore-legs are extended before him, and merely serve to balance him, and to carry a small proportion of their usual burden. In the next stage the horse lies down, and refuses to get up again; but there is a long struggle with his fears before he summons courage to bring the fore-feet back preparatory to lying down, in which the weight is taken by them. On examining the feet with the hand they feel decidedly hot, and if one only is affected, the difference between the two is easily perceived. If rapped smartly with a hammer, with such an amount of force only as would not affect a sound foot, the horse shrinks, and draws his foot away, evidently suffering pain; or if the toe is pinched with the smith's pincers, the same mode of expressing pain is exhibited; at the same time the artery running down between the bone and tendon on each side the pastern will be felt throbbing more violently than usual. All these symptoms mark the disease, which should be **treated** as follows:—Bleeding is required as for all active inflammations of important parts, but it is best effected from the toe itself, by which the advantages of local as well as general depletion are obtained. If one foot only is inflamed, then bleed from that toe to the extent of a gallon and a half; or if both are affected, then take three or four quarts from each, in the manner described under the operation of Bleeding; after this the shoe must be lightly tacked on, and the whole foot and leg, up to the pastern, should be kept constantly wet, either by means of a bran poultice or a large sponge, or the sandal made on purpose. Moisture is necessary to soften the horn of the hoof, in order to allow the inflamed parts to expand; and the low temperature is required to reduce the inflammation. Ice is of great service, if it can be constantly applied; but if only for an hour or two, with an intermission during the night, it does more harm than good. It should only be applied when the inflammation is high; but when that is the case, and the foot is very hot, a lump or two of ice *constantly kept in the poultice* will be of great service. If the feet are only so far inflamed as to admit of the horse easily standing on them, a smart aloetic purging ball with calomel (No. 11) will be required; but if the feet cannot bear the weight, either the bowels must be left to themselves, or a mild ball only, such as No. 9, should be administered; after which the calomel, nitre, and opium ball, febrifuge No. 1, may be given night and morning. If the feet are not less painful by the following day, two or three quarts more blood should be again taken; and this may even be repeated a third time to the extent of half this quantity; for though large bleedings are prejudicial to the horse, yet he had better be weakened severely than lose his feet for all useful purposes, which he will do if not speedily relieved in acute cases. In such cases as these ice is of the greatest importance; and if it cannot be obtained, a refrigerating mixture, composed of nitre and sal ammoniac in equal proportions, of which two ounces are to be dissolved in two quarts of water, and used *at once* as a lotion, or for wetting the bran poultice. When the heat is somewhat subdued—that is, after two or three days—the coronet may be blistered, taking care to guard the hoof by rubbing it over with plenty of some sticky grease—as, for instance, resin ointment—and to put a cradle on the horse. Low diet, consisting of bran mashes or green meat, should be substituted for the corn and hay on which he has been living;

and great care is required in the progress of the cure not to move the horse too soon, as exercise when the laminæ of the foot are still inflamed is highly prejudicial to the removal of the mischief almost invariably left behind. The hoofs are very often shed, the separation beginning at the end of a week or ten days from the time of the occurrence of the attack, and generally going on gradually till, at the end of three weeks or a month, or even still longer, the whole comes off, leaving the sensible laminæ covered only by a very thin and tender layer of an imperfectly formed horn; in process of time this grows out and hardens, and a new foot is the result, but generally rather smaller and weaker than the original. Yet in some few cases, I have seen a set of useful feet reproduced, and the horse able to do good work afterwards for a series of years. This, however, is the exception, and I should never calculate upon it, knowing that in nine cases out of ten the foot is small, hard, and brittle, and there is no expansion of the frog to allow of the proper action on the ground. It is always, therefore, very questionable whether it is worth while to treat a horse when thus attacked, with the slight chance of perfect recovery.

CHRONIC INFLAMMATION OF THE FEET is nearly as unmanageable as the acute, and when thoroughly established it is quite incurable, as in that form called "navicular disease." Here there is chronic inflammation, generally accompanied by ulceration of the cartilage covering the navicular bone, or the coffin or pastern bones. Sometimes this state has ended in absolute bony union; but the disease seldom advances so far as this. It may be known by the tender, feeling step of the horse; by his refusing to trot boldly with his heel on the ground; by his pointing his toe forward when at rest; and by the frequent absence of all alteration of form in the foot. The inflammation is not always in this bone, I have very little doubt, but wherever there is a tenderness of the foot, as shown by the want of power to bear the pain consequent upon its use; and when there is neither contraction of the foot, nor corn, nor thrush, nor ringbone, nor, in fact, any evidence of any other mischief, the horse is usually said to have "navicular disease." Hence, it is generally rather by the absence of other diseases that it is recognised than by the presence of any symptom which, during life, will suffice to fix its seat. After death, on dissection, the knife often exhibits the traces of disease, in the shape of ulceration, &c.; but during life no examination, however careful, will reach the small extent of mischief which is in existence. There is very little to be done in the way of treatment for this affection, and nothing but "nerving" offers much chance of benefit. This has been tried in numberless cases, sometimes with success, but more often with the contrary result. Nerving itself is described under the chapter on Operations; but its effects must here be considered. In navicular disease it appears too often to increase the mischief; but in simple contraction, depending upon the want of use of the feet, it will often induce the horse to employ them, and thus remove the cause which has all along been keeping up the effect.

CONTRACTION OF THE FOOT consists in a deficiency of frog, sensible as well as insensible, producing such an abortive proportion of the hinder part of the foot as to give it a narrow appearance. *But narrowness is not necessarily contraction*; there may be a long, narrow foot, formed like that of a donkey, yet with a good frog, and as sound as a bell. I have had horses with feet of this character, which no rattling on the road could lame, even during long series of years, whilst others, apparently possessing good open feet, have speedily become altered in shape, and have in exact proportion to this alteration lost their soundness and freedom from pain. If a horse is suddenly put to hard road-work in the summer time, his feet, for want of seasoning, become inflamed, sometimes to such an extent as to produce acute disease, at others to lead to the navicular lameness, and in a third set of cases to that chronic condition of the sensible frog, and laminæ of the foot, which ends not in contraction of the heel, but in a wasting of the secretion poured out by these parts, namely—the insensible frog and its adjacent parts, the heels. A narrow foot, however, must always be regarded with suspicion, for if there is a want of due proportion in its parts; if the frog is small, shrivelled, and wasted, and the bars are weak and undeveloped, assuredly the foot is diseased, and the horse will be incapable of using it long upon hard roads, if he has not already lost its action. On the other hand, if both feet are exactly alike, and the hind feet are also narrow and donkey-like, if the frog and bars are as fully developed as the rest of the foot, and if the horse runs boldly upon hard ground, it may be assumed with a tolerable degree of certainty that the shape is natural to the individual, and not the result of disease. In many cases contrac-

tion comes on from improper shoeing, but not quite in the way that is commonly supposed. It is said by most of those who attribute its occurrence to bad shoeing, that when the shoe is allowed to remain on for more than three weeks, the foot is bound within certain limits and cannot possibly expand, and therefore becomes contracted. But it is forgotten that in hundreds of cases, with every care, and with constant removals, the feet gradually assume the contracted condition, and often, apparently, the faster for the care which is bestowed upon them. I have seen vast numbers of feet become contracted in this way, and I am satisfied that the cause is a very simple one. In ninety-nine cases out of a hundred the shoe is made with the "seating," or bevelled surface, carried out to the heel, or very nearly so, instead of leaving fully half an inch of the web perfectly level for the heel of the foot to rest upon. Besides this defect, most smiths, and especially when shoeing horses for sale, make the shoe wider than the foot, whereby the heel is placed still more upon this bevelled edge than it otherwise would be, and the consequence is, that the horse is constantly standing and working upon a bevelled surface instead of on a flat one, and that surface has a tendency to drive the heels in. If one hundred horses taken at random are examined, it will be found that more than ninety are thus shod, with the iron of the shoe projecting nearly half an inch beyond the horny matter of the heel, by which, to a superficial observer, the foot appears open and the real condition of the heel is obscured. Now, if these shoes are removed, it will be seen that there is a large polished surface on the inner edge of the web, where the heel has been compelled to play by the weight being thrown upon the uneven surface on each side. Much has been written upon the expansion of the frog in the descent of the foot, but it is all theoretical; and in practice it is the fact, that if a sound, open, and well formed foot is shod with the web wide enough to take a level bearing from the heel, there is no polished surface seen when the shoe is removed in any part of the web; hence, the conclusion inevitably follows that, since the polished surface can only occur from the expansion and contraction of the foot under certain conditions, already specified; and since it does not occur in a sound foot properly shod, whilst it is always met with in the foot placed upon too wide a shoe, if also "seated" too far back, the contraction and expansion are connected with the improper shoeing, and not with the want of expansion of the frog. This conclusion has been forced upon me by the numerous instances in which I have had shoes removed after purchasing horses from a dealer's stables, where these wide shoes are invariably adopted, and in which the polished condition above specified has been very remarkable. It takes some months, it is true, to produce the alteration; but nevertheless, though slow, it is sure, and if continued the horse is almost to a certainty made a cripple by the long-continued use of such a shoe. Corns are also constantly produced by them; but these we shall presently consider by themselves. Suffice it then to observe, that contracted feet are produced by two causes; first, by chronic inflammation, ending in a wasting of the sensible parts of the foot, and in a want of proper secretion of horn, and consequent diminution of size in the foot; and, secondly, from the shoeing being conducted upon improper principles, that is to say, by placing the foot upon two sloping surfaces, each tending towards the frog; and this second cause acts the more strongly *in proportion to the frequency of the renewal of the shoe.* In the present day no shoes are nailed far enough back on both sides to affect the heels; and however long they may remain on, these are not affected, because if the foot grows sufficiently it will expand beyond the shoe, which then lies within the crust, and is imbedded in the sole, as is constantly seen in horses whose feet have been neglected. The want of re-shoeing is more likely to prevent contraction than to cause it; and though I am well aware that it is prejudicial to the soundness of the foot, it is not by producing contraction of the heels, but rather by injuring the sole, and preventing the proper expansion of the toe, which is as necessary as that of the heel. The remedy for contracted heels is, to place the foot upon a flat web, or sometimes even upon one bevelled at the heel in the opposite direction to the seated shoe. With this I have succeeded in two or three cases in rectifying contraction to a degree which exceeded my most sanguine anticipations; and I am persuaded that in very many cases where the contraction has arisen from this improper use of the seated shoe, the use of the opposite kind of bevelling will be attended with benefit, and often with a complete cure. Only let the horse-master examine these wide shoes when taken off, and he will find this polished surface invariably attending upon it, that is, when the seating is carried out too far

back; and then let him try the opposite plan, or the middle one of a flat surface, and he will soon find the benefit of the alteration. If the contraction is attended with inflammation also, the "clay-stall" should be used, either without work, or in the intervals of it. This remedy consists in procuring sufficient clay to make a layer of it, in the upper part of a stall, six inches thick, which is to be kept constantly wet with cold water, and the horse placed to stand in it for all but the necessary hours of rest. The feet sink into the clay, which hollow is immediately filled with water draining in from some of the previously made holes, and thus the benefit really derived is the same as from a constant standing in cold water, but in a mode which is readily applicable to any stable. And, in addition to this, the *pressure* of the clay may perhaps tend to force out the heels, and thus expand them, though I am rather doubtful upon this point.

PUMICED-FEET AND SEEDY TOES are both of them the result of acute or subacute inflammation—the former of the sole, and the latter of the toe. After the laminæ of the foot have been seriously affected by inflammation, in which they have more or less separated from the horn which they secrete, they seldom are perfectly re-united to it in the first stage, and in the second they secrete an imperfect horn, which is cellular, brittle, and incapable of giving that elastic support which the hoof is intended to supply. The consequence is, that the coffin-bone presses through this spongy matter, and instead of being supported by its arch, it projects into a convex form, more or less, according to the extent of the disease. This is the PUMICED-FOOT. But sometimes the plates in front of the foot are more affected than those of the sole, and then they leave the horn instead of bulging into it, and the consequence is, that there is a space between the outside of the foot and the sensible part inside, which is occupied either by a large cavity, or by spongy matter; and generally this runs a short way back into the sole as well; in either case constituting the form of disease called THE SEEDY-TOE. The TREATMENT of these two conditions is founded upon the fact, that the former can only be palliated, whereas the latter can be cured; and the reason of this is, that the pressure cannot be taken off the sole while nature is repairing the injury. In either case, it would take from three to six months for the horn to be reproduced in such strength as to bear pressure; and, of course, during that time the animal cannot be supported in such a way as to allow of the growth. Hence, the treatment of pumiced-feet can only be palliative, and we must be content to do what can be done by careful shoeing, and keeping them rigidly dry while in the stable. Two things are necessary—first, to keep all pressure off the sole while at work; and, secondly, to take care that it receives some little weight in the stable; because if it has none, it will gradually project more and more, and will thus become worse instead of better. The pumiced-foot, therefore, should be shod with a wide, but *thin*, web, covering nearly the whole foot, or, at least, so much as to guard it against stones, and other convex bodies. Being thin, it raises the sole very little from the litter, and thus allows this elastic material to rise into the centre, and press lightly against the centre of the sole, whereby the increased convexity is prevented. A bar-shoe is bad, because it throws the pressure upon the frog, which is generally more or less affected; and leather soles will very seldom afford relief in pumiced-feet, because they take the pressure off the crust, and throw it generally over the sole; and this is the case, whether they are used with the tow-packing or without it; for, in the first case, the tow acts as a means of pressure, and, in the second, the dirt of the road is sure to enter between the leather sole and the spaces left on each side the frog, and thus does more harm than the tow would have done. The plain broad web is therefore the best mode of treatment, with great care in keeping the foot dry, and avoiding too liberal a use of tar and grease. "The stopping" of the stable is too softening; generally speaking, there is nothing like leaving the foot without anything applied to it, except a little neat's foot oil, just before going out in wet weather, which prevents the softening effect of the water in the roads. In the cure of seedy-toe a very different treatment is necessary: here there is a chance of perfect recovery, and as the pressure can be taken off in the meantime, so nature generally restores the parts in such a state of perfection as will suffice for ordinary work. When the seedy-toe is discovered, the disease has generally been for some time in existence, and the new horn is formed under the old, but of a very thin and brittle character, and with a space between; the smith should now remove with his drawing-knife all but this new horn, taking away the whole of the toe of the hoof, including the spongy matter, if there is any, and only leaving the thin covering to the laminæ, which is firmly

attached to them, and which has very much the wrinkled appearance of varnish dried in thick layers on an uneven surface, and powdered over with very fine resin; or like the new nail of a man's finger when it is growing up after the original has been lost, but somewhat thicker and rougher than this. When all has been removed, there is generally enough of the side of the crust to nail a short shoe on, and this should be done by means of two or three nails on each side, taking care to remove all projecting edges at the toe and heel, for fear of its being torn off; and then the toe should be well dressed with tar and tallow, mixed in equal proportions; and the horse should be turned into a loose box, with plenty of tan, but no litter. The tar should be kept constantly applied, and the shoes should be taken off and re-applied every three weeks, paring away the crust at the sides as it grows, and clearing off enough of the frog, and of the old sole, to allow the internal foot to keep its healthy shape. In process of time, the outer layer of horn grows down from the coronet, and re-invests the toe, and the inner one grows up from the laminæ covering the coffin-bone, and also from the sole; and when it has nearly arrived at its full growth, so that the shoe can be removed with safety, there is no harm in turning the horse out in a *dry meadow*, with plenty of grass. Moisture interferes with the proper growth of horn; and hard ground, unprotected with grass, is likely to bruise the tender foot as yet not perfectly recovered. If, therefore, a meadow of the above description cannot be obtained, it is better to keep him in the box.

SAND-CRACK.—Different reasons are assigned for the distinctive name given to this kind of crack in the hoof, some supposing that it is because it happens more frequently in sandy districts, and others that it is from the crack being only of a size to admit sand. The latter I should fancy is the more probable etymology, since I imagine there is no real foundation for the belief that sandy districts are peculiarly prone to produce the diseased condition which leads to sand-crack. The essence of the diseased condition consists in a secretion of horn, having the fibres strong enough in a perpendicular direction, but not interlaced transversely, so that, while it is as tough as ever in resisting the battering of the road, *till it bursts*, yet when more than usual stress is thrown upon it, it splits open, and is then quite incapable of bearing its load. A hoof thus liable to sand-crack will be observed to be striated from the coronet towards the edge of the shoe, while the oyster-shelled foot is generally more open to the pumiced condition already described. In the fore-foot the crack is generally in the inner quarter, beginning at the coronet and running more or less downwards; sometimes, however, it occurs on the outside, but very rarely indeed in the front of the foot. On the other hand, in the hind-foot the sand-crack is almost always in the front; the reason of which is, that the heel of the fore-foot is exposed to the shock of the ground; but in the hind-foot the toe is the only part which strikes it with any force. The PREDISPOSING CAUSE often exists for a long time; but it requires a piece of hard work to develope the crack, and then the difficulty is to restore it even to its previous weak condition. In spite, however, of this pre-existing tendency, no horse can be considered unsound until the crack actually appears. It does not always occasion lameness, but it will generally do so when the horse is worked hard. The TREATMENT consists in cutting away the horn down to the bottom of the crack in a bevelled direction, so that no sand can lodge there, and thus increase the mischief. At the point of the crack a small round hole should be drilled or burnt out, by which the crack is prevented from spreading. The next thing to be done is to bind the two edges of the crack together, which is generally done by tying tape or wire all round the foot; but a much better and more really useful plan is to drill two shallow holes into the horn on each side of the lower end of the crack, and then to screw very short studs into them, which are to be connected together by fine copper wire, laced from one to the other across the crack. The horn is too thin to carry this up to the coronet, but an inch below that part there is generally sufficient thickness of horn to screw in a stud about one-eighth or one-sixth of an inch, which will give sufficient hold for the purpose. After this is done, some gutta percha is to be warmed, and moulded into the crack, covering up all the irregularities, and keeping out the water; and finally, the *coronet* is to be constantly stimulated with tar and tallow in order to hasten the growth of horn, and improve its quality, by making it more tough. Some months will always elapse before the cure is complete.

WEAKNESS OF THE FOOT is dependent upon an insufficient secretion of horn, and is often congenital, and wholly incurable. It is, however, generally manageable by careful shoeing; and for many purposes, with the aid of a good smith, horses with weak feet are more useful than those with feet of an opposite formation. In the first

place, they are seldom liable to contraction; and in the second, they do not often contract navicular disease; but if not carefully shoed, they are very liable to suffer from being bound by the nails, or to become tender from uneven pressure, as upon the heels, or upon the sole. The REMEDIES for these peculiarities will be found under the head of SHOEING; merely here remarking, that the growth of horn should always be encouraged by tar, and that little or nothing should be removed from the foot by paring when the shoes are removed.

CORNS occur at the heel of the fore-foot and chiefly on the inner one; and they are the result of the unnatural pressure thrown upon this part by the use of the shoe, which lifts the frog off the ground, and gives the heel the whole of the office which nature intended to be shared with the frog. In the unshod foot the weight is taken by the toe and frog chiefly, the sole and the sides of the crest, as well as the heels, bearing a very subordinate part when on level ground; but when the modern shoe is applied, the frog is raised from the ground by the thickness of the shoe, and on a hard road it does not touch it, but the heels alone receive the concussion. Besides this cause, inseparable from our mode of shoeing, there is the serious error too often committed by the smith, of either leaving too much of the horn between the bar and the crust, or of removing the bar altogether; or, again, the shoe may slip within the crust, and lie just upon a part of the heel which is peculiarly weak and liable to inflammation. The consequence of one or the other of these causes is, that a small quantity of blood is extravasated beneath the horn, just as in a bruise of our own nails, and there is immediately inflammation set up in order to get rid of it. Corns in horses are unlike our corns in their nature, being simply bruises of the delicate membrane beneath the horn; and they are evidenced by the colour of the horn, which is more or less stained with blood when pared by the knife of the smith. The REMEDY is simple enough, and consists in removing the pressure by paring away the horn, covering the seat of the corn, and thus preventing the shoe from touching it; but this must be repeated at intervals of a fortnight, because within that time the horn grows down to the level of the shoe, and again takes the pressure, so that the corn is sure to reappear. In this way they may generally be cured, though they will almost always return without constant care; and a foot which has once suffered from corns is always to be watched. When they are very bad, and the frog is sound, the bar-shoe is the best remedy, which takes off all pressure entirely, and allows the heels to recover their strength and full development; but the frog should be allowed to rest upon the bar, and not lie above it with a clear space, as I have often seen, and with a prejudicial effect, because the web of the bar-shoe is sure to lie upon the heel as it leaves the crust to bend across, if it is not raised from it by the frog. The smith, therefore, should so adjust the shoe that the heel is left sufficiently clear of the web to pass a straw between without injury to it. If, in paring out the corn, there is a decided effusion of blood or matter under the horn, this must be so far removed as to allow of the escape of the fluid, and then the ragged portions of horn are to be removed, whatever may be their extent, and one of the caustics, Nos. 14, 15, or 16, applied by means of a small piece of tow, which is to be left in the opening, and removed every day, after which it is to be reapplied.

THRUSH is an ulceration of the sensible frog, causing a secretion of very offensive matter, and generally showing it in the cleft, where there is a soft cheesy secretion, easily recognised by its peculiar smell, and covered up by ragged portions of horn, on removing which with the knife, the horny cushion is found to be much wasted, and sometimes the sensible frog is quite bare, and its ulcerations evident to the eye. Generally, however, this condition exists only at the bottom of the cleft, which cannot be reached by the knife without removing too much of the horn; and the treatment must be limited to the application of mild liquid caustics to this cleft, by means of tow dipped in them and pressed deeply into it. Thrush is caused by anything likely to produce inflammation, such as the irritation of urine, which in some stables is allowed to collect under the litter, and thus soak into the spongy frog. This is generally the sole cause in the hind foot, which is more subject to thrush than the fore; but in the latter it is often the consequence of inflammation and contraction of the feet, producing ulceration of the frog; while on the other hand, thrush itself, when caused by standing in foul stables, and long neglected, will, by its wasting the frog, bring on contraction of the foot. Horses at grass in wet meadows are very liable to thrush; and sometimes come up with all their frogs thus affected, though more frequently only with the hind ones diseased. It does not cause lameness, except in very bad cases; but there is always

tenderness upon pressure, so that if the horse treads upon a stone he will often drop with the pain, and perhaps break his knees in consequence. The TREATMENT in all cases should consist in first clearing away all the loose horn, and thus getting down to the seat of the disease, which is then to be cured by applying nitrate of silver, or bluestone, or chloride of zinc, in solution, according to one or other of the forms given at page 698. These are to be used by means of tow dipped in them and well worked into the cleft, or, when the whole surface is ulcerated, by a piece all over it, and kept in its place by a bar-shoe, which in this case ought not to take its pressure upon the frog, but should be chambered there, and should be firmly bedded upon the heels. The bar-shoe in this case is a protection to the frog, and the heels must now take the bearing which, in the case of corns, must, as I have already explained, be thrown upon the frog. By persevering in the use of these caustics, and by keeping the foot dry, the foul smell soon ceases, and healthy horny matter begins to be thrown out; and in process of time a sound frog is again produced. Thrushes ought never to be neglected, for they sometimes become quite incurable, in consequence of their continuing so long as to cause permanent mischief to the sensible frog; and sometimes the ulceration extends in the form of sinuses into the sole of the foot, or in the shape of canker, which must next be considered.

CANKER is an extension of thrush, or sometimes of a corn or bruise in any other part of the sole, so as to cause extensive ulceration, and consequent *fungous granulation*, which sprouts out, and sometimes makes its appearance through the opening left in the horny sole, or through the ragged portions of the frog, exhibiting a mass of red fungous growth of a shining appearance. It is more peculiarly the disease of the cart-horse, though sometimes it is met with in the neglected hack or harness-horse. It must be TREATED with great care by the skilful use of caustics, which at first must be of considerable power, such as the muriate of antimony, or the caustic No. 7, page 698, and afterwards by a milder form, according to the extent and severity of the disease. It is, however, very seldom that this disease can be successfully managed without the aid of a veterinary surgeon, and this should if possible be obtained in all such cases; because the application of remedies must be always in exact proportion to the amount of mischief, and if too strong, or not strong enough, the cure is imperfect, or even the case may be vastly aggravated.

SECT. 8.—INFLAMMATION OF THE BONES.

THE BONES OF THE HORSE are particularly liable to disease, much more so indeed than in any animal with which I am acquainted. This arises from the fact that they are more used than those of any other domestic animal, and also that they are more liable to abuse, from the confinement and heat of the stable, which encourages the growth of bony matter, and leads to the various kinds of splents, spavins, ring-bones, &c., which are a constant source of uneasiness to the trainer and the horseman. The chief diseases of the bone to which the horse is subject are the following, viz.—first, a new growth of hard bony matter, from the side of a long bone, forming a lump more or less prominent, and called a splent; secondly, a growth of soft and spongy bony substance around the joints, especially the hock, which is apparently intended by nature to strengthen weak joints, but which generally acts in a deleterious manner, by giving pain, and occasioning lameness; and thirdly, a similar formation around the pasterns, just above the coronet, and resembling the spavin in structure, but called a ring-bone, from its shape and situation. Besides these three, we find occasionally, in other situations, splents, or exostoses, as they are called in scientific language, occurring, as on the cheek-bones, arm-bones, &c., and also the small bones of the knee united together by bony matter, in a manner similar to the spavin in the hock.

SPLENTS occur both on the hind and fore-leg, but much more frequently on the latter, and almost invariably on its inside. They consist originally of an inflammation of the membrane covering the bone (*periosteum*), as a consequence of which fresh bone is deposited on the surface of the natural bone, forming a lump usually of an oval shape, which is sometimes visible, and almost always, but not invariably, to be detected by a manual examination. When the purchaser examines the legs of the horse he is inspecting, he runs his fingers down on each side of the cannon-bone and carefully examines not only the sides, but the spaces, or angles, left between the bone and the suspensory ligament. Here is the only part where splents are likely to be injurious, by causing lameness, which they do by pressing upon the suspensory ligament, or rather by receiving its pressure, and so occasioning severe pain in the action

of the horse. If the splent is situated on the front or outside of the leg, it may always be considered to be the result of a blow—as, for instance, from a wall or gate on the shin in hunting, or from the blow of a stick, or other body of a similar kind, on the outside. On the inside, or back of the leg, they are generally either the effect of a blow from the other leg of the horse "hitting" the cannon-bone where the splent is situated, or else from the strain thrown upon the inside by the peculiar formation of the fore-leg. But whatever may be the precise cause of splent, there can be no doubt that it very commonly occurs on the cannon-bone, or partly on that bone, and partly on the inner splent-bone, so as to glue them together, and thus apparently to aid in giving extra strength to the whole leg. Each splent-bone is furnished with a rounded extremity, fuller than the rest of the bone, and this must not be mistaken for a splent, as I have known happen more than once with theoretical horse-masters, who have found fault with horses as having splents, merely because they had this natural termination to their splent-bones, which ought to be about the size of large peas. But to return to the manual examination of the leg, when the hand, in passing down it as above described, discovers a large bump on the side of the bone, clear of the tendon and ligament, and not in the way of the horse's action, it may be disregarded, unless very large and sore; but if this splent is close upon the tendon in the upper half of the leg, or upon the suspensory ligament in the lower part, there is always danger of lameness occurring; and more especially if it actually extends beneath either of these parts, and is partly obscured by them. Very often a splent exists so completely hidden by one or the other of these bands of fibrous matter, that it can only be felt when the leg is bent, and the tendon and ligament relaxed, in which position the posterior surface of the bone may be readily and carefully examined; after which being done by a person used to the business, there is little chance of the existence of an undetected splent. These exostoses almost always occur in young horses, and disappear as they grow old; and it is very rare to meet with a newly-formed one, or indeed with any at all after ten years of age. The course of time, therefore, will almost always eradicate them if left alone; and so long as there is no lameness arising from them, any interference is always to be deprecated. Numberless are the instances in which I have known splents go on for years without causing lameness, so long as they were suffered to remain unmolested; but no sooner were they treated by some ignorant person, who promised a cure, than they became inflamed, and lamed the horse for many months. The cure can only be effected by rousing inflammation in them so as to cause absorption; but this action is always incapable of control, and when the fire is once lighted there is no knowing how far it will go. For this reason it is that I advise every one to let well alone, and not to tamper with an innocent disease which always works its own cure in time, if left to itself; but if the splent is really causing lameness it is time to interfere, and the best mode of treatment is as follows:—In the first place, the horse should be cooled down a little by a dose or two of physic, and by mashes, &c., with a loss of half his corn. Next, when the legs are cool, rub in some of the mercurial blistering ointment, No. 6, over the splent, previously cutting off the hair; this will cause the skin to swell and discharge, after which the arnica wash, at page 702, is to be painted on with a brush daily for a fortnight, or until the swelling of the skin is entirely gone, when the ointment may again be rubbed, followed as before by the arnica wash, and this routine being repeated until the splent is wholly gone; after which the horse should have nearly a month's rest, to get rid of all the inflammation; during which time wet bandages may be applied, and then the leg may be considered perfectly cured, though sometimes a degree of lameness will remain only to be removed by steady exercise and light work.

SPAVINS are somewhat similar in their nature to splents, but they occur in the hock only, and show themselves in the inner side of that joint, just below the bend, where they exhibit themselves first in the shape of a small nut-like bony tumour, which gradually enlarges until it often assumes a size equal to more than half an orange. It is often asserted, as in the case of splents in the fore-leg, that spavin occurs in the inner side of the joint, because the smith is apt to raise the outer heel of the shoe with a calkin; but this argument will not hold water, when we consider the numberless instances in which splents and spavins occur in these situations in colts which have never yet been shod. Thousands of well-bred colts are every year found to be spavined before they are even bitted, and in them therefore this cause cannot possibly be in operation. However,

it is scarcely necessary for our present purpose to seek to ascertain the reason for this preference; suffice it to observe, that spavin need only be looked for on the inside of the hock; it must not be confounded with those bumpy yet sound hocks which are not unfrequently met with, in which the bony processes are well developed in all directions, and the outside as well as the inside of the hock are full of bumps and lumps. Spavin rarely attacks these joints, but occurs in small and neat-looking hocks, which are naturally weak and incapable of sustaining the shocks of the gallop or the leap. The disease generally, but not always, occasions lameness, which is very evident in first coming out of the stable, but which afterwards often goes off, to return again the next day. When a horse badly spavined is examined out of doors he will often walk soundly enough, but the moment he is trotted he refuses to put more than his toe to the ground, and sometimes hops on one leg, carrying the other in the air. The TREATMENT of spavin is by first lowering the horse as for splent, and then either blistering the inside of the joint, or firing it. A variety of remedies have been in vogue at various times for this affection; the one now the fashion is Major's British Remedy, said to be composed of sulphuric acid; but whatever may be its composition, it certainly acts as a powerful counter-irritant, and generally speedily accomplishes a reduction of the bony tumour, though not, as Mr. Major asserts, without pain. I cannot myself believe that it is more free from pain than firing, and I much doubt whether it is as permanently efficacious; but that it does answer the purpose no one can deny who has seen cases cured by its means. It produces a discharge from the skin, and in some cases blemishes the horse to as great an extent as from firing; but, in the majority of instances, with proper care, there is little or no loss of hair. When the disease is far advanced firing is the best remedy; and, as far as I know, it is the only one upon which reliance can be placed. With its aid I have known numberless spavins stand the shocks of the training-ground and the hunting-field; but after the usual half-remedies I have seen so many failures, that I should be unwilling either to try them myself or to recommend them to others. Blisters of any kind will remove the bony growth if repeated again and again, but none acts so well as the biniodide, as given at page 697. Nevertheless, I prefer the iron, though I should afterwards use the biniodide—the firing acting by reducing the inflammation, while the mercury produces absorption of the bony matter. Slow work is often of service, and the spavined horse will often derive material benefit, after firing or blistering, from a winter's work at ploughing, harrowing, &c.

RING-BONE occurs, as I have already observed, just above the coronet, where it shows itself as a bony lump, at first being situated between the coronet and the upper pastern bone, but soon extending upwards and downwards, and in bad cases implicating the joint above and below it. In heavy cart-horses it is a very formidable disease, and lames as many horses as spavin, or perhaps even more. In them it occurs more frequently on the hind-legs; but in lighter horses the fore-legs are more commonly the seat of the disease. The TREATMENT is exactly the same as for spavin.

SECT. 9.—INFLAMMATION OF THE JOINTS.

GENERAL REMARKS.—The joints of the horse are the seats of two kinds of inflammation—one the result of constitutional disturbance, and almost always of a rheumatic character; the other coming on gradually as a consequence of the battering of hard work. By disease of the joints I mean such as occurs in those called "round-bone," "stifle-joint disease," "grogginess," &c., and not in those which are rather external to the joints than occurring in them, such as spavin and ring-bone. The kind of inflammation which occurs in the joints without work is generally of a rheumatic character, and comes on after catching cold from standing in a draught, or from a similar cause. It will be comprised under the heads of round-bone, stifle-joint disease, and enlarged knee: while the joints inflamed by work will come under the heads of staleness or grogginess, windgall, thoroughpin, and capped-hock and elbow.

ROUND-BONE DISEASE is not uncommon, though perhaps it may be more often located in the imagination than in reality. When a horse is lame behind, and there is nothing to show for it, it is often the case that the farrier fixes upon the round-bone as the seat of the mischief, just as in the fore-quarter he heaps upon the shoulder a variety of ailments which have a totally different locality for their habitation. When this bone, which is the head of the thigh-bone, with its ligaments, becomes inflamed, there is almost always more or less wasting of the muscles of the thigh, so that on looking at the horse from behind the two sides are not symmetrical, but the diseased

one looks shrunken, and feels soft and flabby. The CURE should begin with rest and blistering, followed after a considerable interval by slow and steady work, which will often succeed in restoring the parts to a sound state, by compelling those muscles to act which have so long been thrown out of action from a fear of pain as to have lost their natural size, and consequently their full power. I have in this way succeeded in curing lameness in the round-bone of some years' duration, and the shrunk muscles have then been restored to a full degree of plumpness and firmness to the touch.

LAMENESS OF THE STIFLE-JOINT is very rare, except as connected with sprain or dislocation of the patella, accidents which sometimes occur, and the latter of which can seldom be managed without the aid of a veterinary surgeon, whose assistance should in all such cases be called in. Whenever this joint is diseased, or is the subject of accident, it may always be detected by the tenderness on pressure on the joint, and by the heat and soreness existing there. If there is sprain only, a few days' rest will generally set it to rights, together with the application to the adjacent parts of the embrocation No. 1.

ENLARGED KNEE sometimes occurs in the young colt from a weakened condition of the system similar to our scrofula, or from rheumatic inflammation of its ligaments. In the former case, time and good keep will be the most likely to restore it to a state of health; and, in the latter, the alterative ball No. 7, with the application of the biniodide of mercury, page 697, to the knee, taking care to avoid applying it to the back of the joint. When the inflammation is the result of a broken knee, or of a prick from a thorn, it must be treated as described under the head of Accidents.

STALENESS or GROGGINESS of the pastern-joints is always the result of hard work, the latter being only a higher and more extreme degree of the former. The course of inflammation is generally as follows:—After a series of hard days' work, often continued for years together, the fronts of the joints become thickened by the addition of fresh matter to the fibres of the ligaments, and a tendency to knuckle over as a consequence of the instinctive desire which the animal possesses to avoid bending the pastern back. For this purpose he stands with them as straight as possible, and often, when first he comes in from his work, he actually stands so far forward over his toes as to compel himself to lie down, for fear of falling instead. The joints are often thus drawn forwards, in consequence of the strain on the back sinews and suspensory ligaments; but the real grogginess arises from chronic thickening of the synovial capsules and the ligaments covering them, and sometimes even of the spongy heads of the bones. There is a considerable difference in the meaning given to this term by different writers upon the diseases of the horse; some including under this title navicular disease only, while others mean by it disease of the pastern-joints; and a third set describe under this title that shaking or "standing over" at the knee which I believe to be dependent upon inflammation of the foot, rather than of the leg. In horses of high action, which bring their heels down upon the ground with great force, the back part of the foot, including the sensible frog, and the attachment of the sinews and ligament, becomes greatly inflamed, and to such an extent as to cause the horse to stand over in order to relieve it, by rendering the tendons relaxed. No horse by this attitude can stand without using the extensor muscles just as much as, or even more than, he would do if they were quite straight; but though this set is not assisted, yet the posterior tendons or flexors are relieved greatly from their pull upon their inflamed attachments, and consequently the horse perseveres, thus rendering them slack. Such is my explanation of this "standing over," which is sometimes called "grogginess," and which is relieved by any strong counter-irritant which will make a diversion in favour of the tired and bruised heels. Navicular disease has already been fully alluded to, and it now only remains to consider the stale or groggy joint, which is the result of severe work acting upon a healthy frame. In a diseased leg which has previously been affected the effect is much greater than in a sound one, and the grogginess returns in a very short time, though apparently quite cured. Thus I have bought, and seen hundreds of others buy, horses apparently as fresh on their legs as when they were foaled, yet when put to work ever so gradually they soon exhibited the nature of their previous mischief, by relapsing into a state of roundness of the joints, which speedily incapacitated them for work of all kinds. When, however, it has been coming on during a series of years, and at last assumes such an aspect as to prevent further work, a few months' *winter* run, with mild blistering and starvation upon a short bite of grass, will often renovate the legs,

and enable them to stand their work for a second period; seldom, however, nearly as long as the first. But when a horse suits his master, he will take some trouble to keep him at work; and though he cannot be expected to remain sound for many months, or perhaps years, yet the master must not complain if he is not always capable of keeping up his health under the pressure of work as severe as before.

WINDGALLS, THOROUGHPINS, and CAPPED HOCKS or ELBOWS, are all swellings of the synovial capsules. The first in the above list are confined to the capsules placed just above the fetlock-joints of the hind and fore-legs; the second, to those of the hock; and the third, to the synovial bag, situated on the point of the hock and elbow respectively. These synovial bags are for the purpose of lubricating the tendons as they pass over the joints, or else for affording synovia (joint oil) to the joint itself, as in the case of the hock. In the healthy state, when free from inflammation, the synovia is poured out in small quantities, just sufficient to oil the machine; but after very hard work, especially if it is long continued, nature is called upon to do more than this; and as is so often the case, she overdoes her part, and the sac secretes more than is useful, so that it is filled quite full of synovia, and bulges out in the form of a smooth round, or oval, swelling, on each side of the leg, in windgall and thoroughpin, and at the apex of the hock and elbow, when these parts are "capped." These swellings are always worse on the day after work, the sacs having been stimulated by it to secrete a more than usual quantity. The cause of capped hocks and elbows is seldom the same as in windgalls and thoroughpins, the former of these being usually the result of kicking, either in harness or in the stable, by which inflammation is set up in the sac, and the regular balance between the absorption and secretion of synovia is lost, so that it accumulates, and shows a large bag, unsightly to the eye, but otherwise of no consequence. No one accustomed to horses can mistake these swellings for any other disease, but to a tyro it may be needful to show how they may be distinguished. Thus, windgalls all round the four legs are not to be mistaken, because there is scarcely any other swelling which shows itself above each side of the fetlock-joint between the tendon and bone; and the only one which can possibly be mistaken for this disease is the ganglionic enlargement of the tendon, which will be presently described under the section devoted to the consideration of inflammation of these organs. Thoroughpin may possibly be mistaken for blood-spavin, which occupies the same situation on the *inside* of the hock, but is not felt nor seen on the outside, which fact alone will serve to distinguish them. Bone-spavin is hard, while thoroughpin is soft; and when the bulging-out sac on the inside is pressed, it always makes that on the outside project firmly, or *vice versâ*, showing that the two communicate with one another; or, in fact, that they are mere projections of the synovial membrane, or bag, lying between the superficial and deep tendons. The TREATMENT of all these enlargements of synovial bags is the same, and should be strictly local, and of a cooling nature, aided by the pressure of a bandage. Rest will generally remove them, or very nearly so, especially if aided by cold lotions, bandages, or, in some cases, by blisters. Supposing a horse to be very much "puffed" all round—that is to say, supposing he has windgalls, the best plan, if they are to be entirely got rid of, is to cool him down by physic and bran mashes, and then, after taking away three or four quarts of blood, to blister him "all round" with the blistering ointment No. 1, or James's blistering ointment, or the biniodide ointment (see page 697), or either of the embrocations at page 700. James's ointment is much more rapid in healing than any other, and the hair generally comes on again within a month, whereas with the ordinary blister, or the biniodide, double that time will often be occupied. As soon as the blister is healed, and the hair is growing, calico bandages, dipped in either of the lotions Nos. 5 or 6, should be constantly applied; or if their expense is objected to, cold spring water, in which alum is dissolved, may be substituted, and will answer nearly, but not quite, as well. By keeping up this application of bandages, in six weeks or two months the windgalls will have disappeared, when the corn may gradually be restored, and walking exercise may be allowed; but the relief is only temporary, and the swellings generally return as bad as ever on a resumption of the old work. This plan is often adopted in making up horses for sale, and as it cannot possibly be detected, a great risk is run in all purchases of horses whose history is not known. I have many times known a horse so treated sold with legs as fine as the day he was foaled, but in a fortnight the windgalls were as bad as ever. The thoroughpin may be treated just in the same way, and will yield to the same remedies, to return exactly as above described. Capped-hocks and elbows,

however, are much more difficult to remove, and, except very soon after they first appear, they are wholly beyond remedial measures. When quite fresh, however, cooling applications and pressure will do much towards their removal; but blistering and all counter-irritants only make matters worse than before.

Sect. 10.—Inflammation of the Muscles and Tendons.

Chronic Rheumatism may very fairly be classed among local inflammations, whilst rheumatic fever, or acute rheumatism, has been placed among febrile diseases. In the horse, chronic rheumatism is much more common than is generally supposed, and many obscure forms of lameness may be considered to belong to this disease. Very often an old or middle-aged horse, after a wet or cold day's work, comes out of the stable "as stiff as a poker," and scarcely able to walk, upon which his master fancies that he will be laid up with severe lameness for some months; but on consulting with his coachman the next morning, he hears that his horse is quite right again, and fit for work. The great peculiarity of these attacks of rheumatic lameness is their liability to shift and change, the horse on one day being lame in his near fore-leg, and perhaps on the next refusing to put his off hind-foot to the ground. But sometimes the disease is persistent in one limb, though varying in degree; and here the horse always trots lame on one leg; but the difficulty is to find out the seat. If before, it is usually in the shoulder or arm; and if behind, in the muscles of the hip. Shoulder Lameness, when present, is often rheumatic, but in some cases it is the result of a strain; in either case, however, requiring the same treatment. Lameness from rheumatism may almost always be known by the horse *lifting* his leg, whether hind or fore, with difficulty; whereas in disease of the foot or lower part of the leg, he *lifts* it readily enough, but *puts it down* with great caution, and flinches when it is on the ground. The toe is also dragged on the ground in rheumatism, which causes actual loss of action and power; whereas this dragging is never seen in the fore-foot from any other cause. In the rheumatic hip the same kind of defective action is seen, and the hind-leg is not brought forward with sufficient power or freedom. In every case the Treatment consists in rubbing in a stimulating liniment, such as the embrocation No. 1, which should be well rubbed in with the hand night and morning; or Major's synovetic lotion may be tried, which is said to relieve rheumatic stiffness in a marvellous manner. The horse's general health should be attended to, and his stomach set right by stomachic balls, if necessary, or the fever ball, No. 4, given every other night, will sometimes give relief.

Inflamed Tendons are ten times worse than rheumatism, inasmuch as they are generally more or less ruptured in texture, as well as inflamed. It should be borne in mind that all the tendons run in sheaths, which are lined by synovial membrane, and lubricated by its peculiar fluid; and hence, when they become used too often or too long, or on too hard a surface, this membrane becomes thicker, and at last is often so much diseased as to project in the form of an oblong tumour, called "an enlarged back sinew," which is very common in all horses severely galloped over hard ground. The back sinews of the fore-legs are liable to various degrees of injury from inflammation consequent upon work. In the most common form, the swelling projects backwards, and to a certain extent on each side; and in this form is the common precursor of "breaking down." The tendon loses its elasticity from inflammation, and the consequence is that its fibres give way, and, the suspensory ligament having to support the whole weight, also fails; and thus the fetlock comes to the ground. This, however, is the aggravated form of breaking down; the more usual degree being limited to such a partial rupture of the fibres as to cause a considerable swelling, and a total impossibility of putting the heel to the ground. But besides this tendinous mischief, which only comes on in the horse which has been galloped, there is another, frequently found in the roadster or harness-horse, and which I should call the "ganglionic tendon," being similar in its nature to the ganglia so common about the wrists of men and women. These consist of small, round, and smooth lumps upon each side of the back tendon of the fore-leg, close above the fetlock-joint; they are always exactly alike on each side of the leg, and they vary in size from that of half a small walnut to half a hen's egg. They do not always occasion lameness at first, but sooner or later the horse affected with them becomes crippled in his action, and finally lame. I do not know that this peculiar enlargement has ever been described; but I have felt it so often in this situation that there can be no doubt of its frequent occurrence. It is the result of hard work, and is very difficult to remove; no blister-

ings or cold lotions seeming to have any power over it, nor has even the extreme remedy, firing, any power of dispelling the swelling; at least I have had two or three horses thus treated without removing it, though the leg has been free from lameness afterwards, whereas before the treatment, it was very sore and unfit to stand work. The hind-legs are also liable to breaks-down in the same way as the fore-legs; but I never met with the same ganglionic enlargement as in the fore-leg. Down the back sinews of the hind-leg there are often enlargements of the tendon, but seldom to so great an extent as in the fore-leg, unless the tendon breaks down, when it generally gives way between the two pastern-joints. The TREATMENT for all these tendinous enlargements must be by rest, cooling medicine, with bleeding and starvation in severe cases, and the application of cold lotions or ice in a bran poultice. When the leg has become cool, it is sometimes necessary to try either firing, blistering, or sweating, followed by cold bandages, or a run at grass *in the winter*. It is seldom that much good is done here without at least six months' run, after which the leg will often stand harness-work or light hacking; but severe work like training will seldom be borne, inasmuch as the elasticity is in great measure impaired; after cooling down, by physicking, &c., the firing-iron should be neatly run over the leg, and then a good dressing of blistering ointment applied. The horse may now be kept in the stable until the legs become stiff with the swelling, and then he may be turned out with a cradle on, secure from injury by the soreness and stiffness of his legs, which prevent his galloping about. The blistered leg should be carefully kept greased, and if the weather is very frosty it is advisable to keep the horse in-doors, because a very low temperature sometimes occasions sloughs of the skin that are not unattended with danger. In some cases a charge is used instead of blistering, as described at page 698; and it seems to act very beneficially, especially in thin-skinned horses, where there is little benefit to be derived from the iron owing to the want of substance in the skin.

INFLAMMATION OF THE LIGAMENTS of the pastern-joints occurs, more or less, in all hard-worked horses, in which the pastern-joints become more and more round from this cause; and sometimes also the knee, when naturally weak and badly formed; but the most common form of this inflammation arises in the ligament extending from the joint of the hock downwards to the other bones of the tarsus, and which species of mischief is called "a curb." Many horses are very liable to this inflammation from a naturally weak formation there, and often the colt of one or two years old is attacked by the disease. When the hock is thus malformed, the *os calcis* forms an angle with the *cuboides*—and, in fact, with the cannon-bone itself; and the horse is then said to have "curby hocks," to which horsemen have an especial objection. But many horses with this angle have no real tendency to curb, because the ligament, "being big enough for the place," can support the strain thrown upon it, while in others perfectly straight, the ligament, being weak, readily becomes strained and inflamed, and the result is a large curb. It is considered an accident in many cases arising after a severe run or race, and showing itself in a very few minutes, where nothing could have been seen before; in horsemen's language, the horse "has sprung a curb." But by far the more usual mode is for the curb not to appear until after some hours, when, on going to the horse, the groom finds him lame, with a swelling behind the *os calcis*, in the "curb place," as big as half a hen's egg. The horse is almost always lamed, but he may nearly invariably be cured, though, in some cases, the attack of inflammation returns again and again, and the horse is rendered thereby of no use for anything but light hacking or harness work, for at heavy harness the weight which he has to draw is just as likely to bring on the curb again as galloping or leaping. Curbs are to be cured by cooling TREATMENT in all cases first, for no inflammation should be locally combated without first cutting off the supplies, and then either firing the hock, and afterwards blistering it, or else applying some one of the numerous sweating liquids which have been at various times vaunted as infallible cures for curbs. Major's British Remedy is believed by many to have great power, yet I have never seen it used in this disease; but the mineral acids I have seen applied with good effect, and his is said to consist of sulphuric acid. Either of the mercurial blisters at page 697 will do as well as anything I know for curbs, though, I confess, that I rely more upon firing than either—especially if done "with a will," regardless of blemishes. Many people fancy that the mere running of the irons over a leg is sufficient, but, for my part, I like to see them used to as great a depth as the skin will allow. Entire rest should always be

given, and at first the horse should not even leave his box. Two or three months will generally be required before the horse is fit for work, and then he should be very gradually seasoned to it. High-heeled shoes are very commonly put on, but as the disease is confined to the ligament, and as the shoe can only relieve the flexor tendons, I can see not the slightest use in this asserted remedial measure. In breaks-down, the shoe can scarcely be too high behind, because then it relieves the pressure upon the part affected, but in this case it has no such effect, and is wholly inoperative.

Sect. 11.—Inflammation of the Blood Vessels.

The Vein of the Neck in which bleeding is effected is sometimes obliterated by inflammation consequent upon the operation. It is of very little consequence, except at grass, when it impedes the return of blood from the head, and thus sometimes causes, or is said to cause, some species of fits.

Blood or Bog Spavin, is a varicose condition of the vein passing on the inner side of the hock. This state is owing to the valves being broken down, by which the whole column of blood weighs upon the walls of the veins and distends them, as well as makes them so tortuous as to appear and feel like a bundle of worms. The veins, as they pass from below upwards, join together to form large trunks; and to prevent them from being burst or unduly distended there are inserted, at short intervals, valves of a most beautiful construction, which allow the blood to pass upwards to the heart, but prevent its regurgitating in the smallest degree. From some cause these valves cease to act, and the consequence is, either that this blood-spavin is established, or that a similar state of things occurs in the fore-leg, which however is not nearly so common. The Treatment of blood-spavin is generally by blisters, repeated until they excite so much inflammation as to obliterate the vein; but, after all, there is no reliance to be placed, except upon some modification of the old practice of dividing the vein. Formerly it was the custom to tie and divide the vein above and below the tumour, and then to dissect out the whole of the mass of distended vessels; but this is unnecessary, and the same operation which is practised in the varicose veins of the human subject answers very well in the horse, though not unattended with danger. As, however, the horse with blood-spavin is unsound, it is very justifiable to incur some risk in his cure; and few masters would object to this if the amount of risk were properly explained; and it is only when a deception has been practised that they would have a right to complain. The operation is a very simple one, and consists in passing a needle beneath the vein and out on the other side of it, and then winding some silk or thread from eye to point until sufficient pressure is made to obliterate the vein. After two or three days, according to the amount of inflammation produced, the needle may be withdrawn, and it will be found that the blood ceases to pass downwards upon the cells of the blood-spavin, and it gradually shrinks. If, however, it communicates with more than one vein, they must all be treated in the same way, keeping in the needle as long as the inflammation will allow.

Varicose Veins in the fore-leg are also sometimes met with, of which I have had one remarkable example in my own stable, in a well-bred mare. She served me as a splendid hack-and-harness mare for ten or twelve years, and then became troubled with these varicose veins, which came on after great inflammation, caused by a prick in shoeing; after a time the whole of the veins around the coronet and up the sides of the fore-leg were filled and tortuous, and their valves became obliterated, so that she was obliged constantly to stand in bandages; and though she could do pretty severe work every other day, yet on the day after work she was always dreadfully lame; and so she was after standing still at any time for half an hour without her bandages. I tied the veins in the way I have mentioned, and for some time she was quite right again; but in process of time the new veins became broken down in the same way, and she was again comparatively useless. I intended to have fired her, but she was so injured by an accident that I was obliged to destroy her.

CHAPTER III.

DISEASES ACCOMPANIED BY WANT OF TONE.

Sect. 1.—Worms.

The Symptoms of Worms in the Horse are not very clearly marked, but their existence may generally be guessed from the following signs. The horse stares in his coat, with an obstinate refusal to lay on flesh; his dung is partly lumpy, and the other part composed of mucus or loose *faeces*; and there is always at the anus a small pendent string of straw-coloured mucus; or if not hanging, yet smeared upon those parts, and generally appearing as a dry powder of a pale straw colour. A husky short cough is also a very common symptom of intestinal worms. When these symptoms are seen, a common physic ball may always be given, which will generally bring away some one or more of these parasites, and the treatment will then depend upon what makes its appearance.

The varieties of parasitic worms in the horse are not very great, being however composed of four species, as follows:—

1.—**The Bot Worm** is the larva of a species of gadfly (*Œstrus equi*), which, in the end of our summers, torments horses at grass very sadly. The egg is laid on the hair of the legs and sides of the horse, to which it adheres very firmly, by means of a glutinous fluid secreted by the fly. In the course of licking himself, the horse carries these eggs, or the young larva when first hatched, into his stomach by means of the tongue, and it is provided with a double hook by which it clings there, choosing the end which is provided with a strong cuticular lining, to which it may cling without serious injury, and where it remains until the next spring, when being prepared to assume the chrysalis form, it is carried off with the food, and remains in the dung until it changes to the mature fly, in order to commence a new round of existence, by depositing fresh eggs. They do not appear to injure the health of the horse, and their presence cannot be discovered during life by any known symptom; indeed the most healthy horses, dying from accident, are often found to be infested by these worms in large numbers; and therefore it is assumed, with great reason, that they are wholly innocent, and that they may be allowed to enter the stomach in the usual way without fear of the consequences. At the same time I should observe, that some writers on veterinary medicine are of opinion that they sometimes produce great mischief by inflammation, and even by ulceration of the stomach; but they do not profess to be able to expel them by any known means.

2.—**The Long Round Worm** (*Ascaris lumbricoides*), resembles the common large garden worm, and is from six to ten inches long. These worms are not nearly so common as the last, but when they occur they are often in large numbers; and from their size and greediness of food, they consume a vast deal of that intended for the horse, and thus keep him thin and half-starved.

3.—**The Needle-Worm, or Thread-Worm** (*Ascaris vermicularis*), inhabits the rectum and colon, where they sometimes collect in large numbers, and even reach the cæcum. It is this kind of worm which causes the mucus to appear at the anus, where it sometimes assumes the straw-coloured appearance already alluded to, and at others shows itself as a dry powder between the thighs, but close upon the anus. They cause great annoyance to the horse from the itching they produce; and he will often stand and rub his tail or buttocks for hours against the stallpost.

4.—**Tapeworm** (*Tænia*), is almost unknown in the horse, but occasionally one is met with.

The Remedies for these worms are chiefly calomel and other drastic purgatives, especially aloes, which will be found useful for the two species ascaris, in the dose and form given at page 703. The linseed oil drench is also very useful for both forms; but for the needle-worm when very low down in the rectum, and occasioning much itching, an injection of the oil will be more efficacious than when given by the mouth. If the calomel and aloetic ball does not remove the worms, from 20 to 25 drops of oil of wormwood may be added to the ball with advantage; or a good dose of tartar emetic may be given as follows, it being the strongest and best vermifuge for the horse:—

Tartar emetic, 2 to 2½ drachms.
Powdered ginger, 15 to 25 grains.
Barbadoes aloes, 1 drachm.
Syrup enough to form a ball.

To be given every morning on first going

into the stable. For tapeworm, if its presence is ascertained without a doubt, the following ball should be given twice a week, the first thing in the morning:—

Spirit of turpentine, ½ ounce.
Powdered ginger, 20 to 25 grains.
Linseed meal and boiling water, enough to make a ball.

Sect. 2.—Indigestion.

Indigestion is often the result of inflammation of the stomach; but as frequently it arises from the opposite condition, and will then come under our present head. In the horse especially is this want of tone the cause of the disease in question; he has a peculiarly small stomach, which is intended by nature to be frequently replenished, and yet it is often kept empty for many hours, as in the protracted day's hunting, when the horse is often from nine o'clock in the morning until late at night without even a drop of water, which the rider seems to think is unnecessary for the horse, though he generally contrives to get a glass of beer, or wine, or spirits for himself, "to keep the cold out." The poor horse, from this cause, is quite unfitted for his oats when he gets home, and even careful nursing, with gruel, &c., will fail to undo what the careless master has effected by his neglect of the common dictates of humanity. If the horseman only recollected that the human stomach is capable of fasting much longer than that of the horse, he would know that whenever his cries "cupboard," that of his horse cries out "manger" twice as loud; and he should take care, for the sake of his pocket, if for no other reason, to afford some kind of support to it. A pint of oatmeal may generally be obtained at country inns, or if not a piece of bread, or a quart of ale will be of service, and the loss of half an hour or less will always procure a feed of oats; but these waitings for the horse are not approved of in these days, and the poor brute must take the consequences, and suffer from flatulence, and other signs of indigestion. When the horse is in this state he passes his food without extracting the proper nourishment from it, and both his oats and hay may be observed in his dung almost wholly unaltered, especially the oats, which will grow in the dung-mixen in rank luxuriance. This is very common in the horse, and arises almost entirely from his long fasts; for in those which are regularly fed it is very rare to meet with the disease. There is scarcely any animal which suffers so much from irregular hours of feeding as the horse; and one of the cardinal virtues in the groom is punctuality in his stable hours. The horse will tell his feeding-time as well as the best clock; and if he is accustomed to regular hours, he will show his impatience if the time is exceeded even by five minutes in a most unmistakeable way, by pawing, whinnying, and looking round. When, therefore, this state is produced in this way, the first thing to be done is to remove the cause by carefully adhering to settled hours, and giving the proper food at the proper time punctually and strictly, without fail under any pretence whatsoever. Sometimes the secretions are depraved, or the liver does not act, in which case some one of the alteratives at page 691 should be given, the form No. 9 being generally the best adapted for the purpose. After this has corrected these functions, and there is a good flow of bile, which will be promoted also by green food, such as Lucerne, carrots, or young vetches, one or other of the stomachic balls, page 702, may be administered every other night, and in a short time they will generally have the desired effect; always recollecting that unless the food is carefully given, no medicine will be of any avail. The oats should be kibbled, and the beans, if used, split. Half a pint of cold-drawn linseed oil, or a quarter of a pound of linseed simmered until soft, may be given with a small bran mash, and will often assist in strengthening the stomach, by affording good food easily digested. But nothing is of so much service as a summer's run on good *upland* grass, which renovates the tone of the stomach, and the horse comes up fat and blooming, and fit for a year or two's stable management, or for a much longer term, if the care is taken to which I have already alluded. Soiling in-doors will do much; but when the legs and feet are good, turning out is *the* remedy for this state of stomach.

Sect. 3.—Washiness.

This is a state of bowels which arises from somewhat similar causes to those which I have already described, and is often co-existent with indigestion. The food being crude, and imperfectly prepared, is expelled from the stomach into the small intestines, which irritates, and thereby causes the absorbent vessels (instead of extracting the nourishment from it) to pass it on in a fluid state. The same thing happens in the large bowels, and the consequence is that the food, instead of remaining in the horse about forty-eight hours, or thereabouts, runs

through him in less than half the time, and he looks a perfect skeleton, as a natural consequence. Such horses carry neither carcase nor flesh, and look tucked-up and wretched. They have no "middle pieces;" the circumference of the anus is so devoid of fat, that there is a sunken space all round it in which a small hand may be laid. This is a sign of weakness which should be carefully attended to, for no horse with this groove well marked is likely to "carry his corn," but will, in all probability, be "washy," and unfit for hard work, or to go through the labours of the hunter or the racehorse. The thighs of these horses are almost always a long way apart, from the want of muscular development; and for this reason, and also to examine the appearance of the anus and its surrounding parts, the horseman, before purchasing a horse, almost always carefully lifts the tail, and inspects him from behind. This state of disordered bowels is to be TREATED much in the same way as for indigestion, except that in addition such food must be given as will be likely to remain in him. Green food is not at all applicable, unless he is rested or turned out; and young vetches or Lucerne are particularly bad—indeed no green meat should be given until its seeds are matured, whether grass, or vetches, or Lucerne, all of which are liable to purge when unripe; and for this reason no washy horse may be turned out, except upon uplands where there is plenty of seeded grass; while rank aftermath or young spring grass are likely to be highly prejudicial, though I am bound to admit that I have known great good from young grass, after it had run the horse almost to death, when it seemed to alter the tone of his bowels, and give to him new flesh and strength. The anodyne ball No. 6, page 694, should also be given every night when the bowels are very loose, but, if possible, they should be managed by diet rather than by medicine. Baked wheat-flour will often act very powerfully, mixed with the oats, in the quantity of half-a-pint at a time.

CHAPTER IV.

SPECIFIC DISEASES.

SECT. 1.—MANGE.

THIS peculiar eruption is undoubtedly contagious, and appears to depend upon some animal or vegetable parasite, as in the dog; probably, as in his case, being made up of various diseases which have not been distinguished. It is usually an oozing, watery eruption, with small vesicles, which break and deposit a fluid in the hair, causing it to mat into a solid cake. After a time the skin becomes dry, and there is a scurf instead of the oozing, and then the hair falls off in patches, leaving the skin scaly and rough, but greasy to the touch. There is considerable itching, and some thickening and tenderness of the skin, which ultimately becomes puckered and folded into furrows, at the bottom of which there is usually some little discharge. The eruption generally first appears near the mane, or along the back; and very often in the early stage, when it is doubtful whether a horse is infected or not, its existence may be confidently pronounced when the short hairs at the root of the mane come out with a very slight pull. The ORIGINAL CAUSE is generally neglect and dirt; but it is doubtful how often this creates mange without contagion, which operates as the cause in ninety-nine cases out of a hundred; no disease being more contagious than this, nor more difficult to eradicate from a stable when once it has broken out, which rather favours its vegetable origin; the seeds of all kinds of fungus being most difficult to destroy. We have no evidence of insect life being produced by poverty and neglect, though lice seem to start into life in a most extraordinary way immediately that the health is broken down by long-continued fevers; still the eggs may be in existence, but the evidence is very strong here in favour of spontaneous generation. But, in the case of mange, it is seldom that it is started in a stable without the risk of contagion from some other horse, and it is commonly supposed to be incapable of being produced in any other way; but here the character of the attendant being at stake, it is reasonable to suppose that he will find out some cause for the disease other than his own neglect and inattention. When a horse is turned out into a straw-yard, or when he has been under the care of a waggoner or stable-keeper, and turns out mangy, it is easy to

ay that such and such a horse must have iven the disease, because the responsible arty in general was obliged to allow of hat horse mixing with the infected one; nd therefore he gladly throws the blame ff his own shoulders on to the assumed riginal mangy one, although that may be holly innocent of skin disease; or perhaps e may have had a simple surfeit. The TREATMENT of mange is partly constitutional and partly local; but, at the same ime, measures should be taken to paint the urrounding walls, &c., of the stables reaining the germs of the disease. The contitutional treatment will depend upon the tate of health of each individual. Some orses are mangy from contagion, and yet re gross in themselves and full of blood. These must be bled and physicked, and their orn should be reduced to such an allowance as will keep them neither too high nor oo low in flesh; others, again, have been educed by hard work, with insufficient food f bad quality, and foul stables improperly entilated. These should be supported with onics, good nutritious, but not heating diet, nd airy stables. The following is the roper kind of medicine for each state of the nimal:—

1.—For gross and overfed animals, give ordinary physic balls once a week, and in he intervals the alterative ball, No. 7, every night.

2.—For low-conditioned horses, begin by giving the alterative ball No. 7, and then give one or other of the tonic balls at page 703. The arsenic ball, No. 5, has obtained great celebrity in mange; and I have no doubt it is of great use; but it should scarcely be given without the superintendence of a proper authority in the shape of a veterinary surgeon. The local remedy should consist chiefly of sulphur ointment, as follows:—

Sulphur, in powder, 4 ounces.
Spirit of turpentine, 2 to 3 ounces.
Lard, 6 ounces. Mix.

Or, Sulphur, and
Train oil, in equal quantities.

If these fail, the following wash may be tried; but it is of rather a dangerous nature, and it should only be used in extreme cases:—

Powdered white hellebore, 8 ounces.
Water, 3 quarts.

Boil gently till the whole is reduced to two quarts, and then add

Corrosive sublimate, 1 drachm.

This wash should be well brushed into the skin with a paint-brush, and no more should be used than will suffice to touch over the diseased parts. The measures to prevent the mange spreading are chiefly very great cleanliness in the stables, with sulphur fumigations. The whole of the boxes, stalls, &c., should be well scoured with soap and boiling water, then brushed over lightly with the wash prescribed above, diluted with an equal quantity of water. Finally, the whole should be made as air-tight as possible, and then a quantity of sulphur should be burnt in the interior, and the fumes allowed to remain in it for a whole night, or, if possible, for twenty-four hours. This will generally eradicate all the contagious matter, whatever it may be; and afterwards, if a coat of quick-lime wash is brushed over everything but the painted woodwork, there is little or no danger of any fresh infection.

SECT. 2.—GLANDERS.

THIS HIGHLY-CONTAGIOUS DISEASE is believed to be almost invariably incurable by any known means, and hence it is not here introduced with any hope of its cure, but solely that horse-masters should be able to recognise it, and, when discovered, to prevent its being spread. The symptoms are—a yellow discharge from one or both nostrils, and a swelling of the glands under the throat. If one nostril only is affected, the corresponding gland is enlarged, whilst the other remains in a healthy state. Sometimes the disease continues in this stage for many months, but, sooner or later, the discharge increases in quantity, and becomes green and very offensive, and the mucous membrane of the nostril becomes ulcerated, and the swollen glands harden, and attach themselves closely to the jaw-bone. It may be distinguished from the swelling and mucous discharge which accompany ordinary cold by the absence of fever, and by the continuance of the disease for a long period of time; also, by the swelled gland adhering to the jaw, which is a very characteristic symptom. The inflammation in glanders is of a chronic character, and there is little heat of surface. The ulceration of the mucous membrane is also peculiar to the disease, and never accompanies ordinary cold, in which, also, the discharge is almost always equally copious from both nostrils. From strangles it may readily be distinguished by the absence of suppuration in the glands, and by the hardness and adhesion of them to the jaw. Glanders, likewise, is the disease of old or adult animals, while strangles

very rarely attacks any but young ones. In strangles, also, the mucous membrane lining the nose is intensely red, while in glanders it is only moderately so: the discharge likewise in strangles is profuse from the first.

THE CAUSE OF GLANDERS is almost always contagion; but in some few cases it appears to be generated, or rather to degenerate from common catarrh or strangles. Still it is very difficult to arrive at certain conclusions upon this subject, because, instead of degenerating, it may only have assumed the form of these milder diseases at first, and yet all the time have been true glanders. But whether it is so or not, it appears quite clear that many cases apparently of these mild diseases gradually become converted into glanders from some cause or other, and are then totally incurable. The point at which the change takes place cannot be defined; but the most experienced surgeons begin by pronouncing them cases of common cold or strangles, and end by asserting that they are true glanders; and the state of the constitution marks the alteration; the horse having become thin and haggard, with his coat staring and rough. Mr. Coleman relates a case in which several sound horses on board ship were obliged to be closely confined under closed hatches, in consequence of which some of them were suffocated, and the remainder showed unmistakeable signs of glanders, although there was not the slightest reason to believe that they were inoculated with it by contagion. It is, therefore, reasonable to conclude with the majority of writers on the subject, that glanders is generated by foul stables, want of ventilation and overcrowding being generally the chief cause and origin of the disease. The essence of the disease appears to be an ulceration of the mucous membrane of the nostrils, which speedily contaminates the nearest lymphatic gland, and finally attacks the whole system, constituting the form called "farcy,"—to be presently described. The ulcers discharge a poisonous matter, which is capable of communicating the disease to other horses or to man, or if absorbed into the system, as it always is in course of time, it destroys the health with more or less rapidity, but with great certainty. But this matter must actually touch the mucous membrane of the sound horse, and no mere breathing will suffice to give the disease. It is by drinking out of the same bucket, or by smelling one another and rubbing noses together, or licking one another, that one horse infects another; and if the stalls were higher it would be carried from one to the other much less frequently than at present. But no one with any prudence would run the risk of keeping an infected horse; and the sooner such an animal is shot the better for all parties, since neither horse nor man is safe from inoculation, with all the care in the world; and in the latter case it is a frightful disease indeed, and one which no one is justified in risking under any pretence whatsoever. TREATMENT seems to be wholly thrown away, though some few cases are recorded in which sulphate of copper given internally and applied externally to the nose, has apparently cured the disease. The Spanish fly is also said to have had the same good effect, but I know nothing from experience of these effects; and I should be very unwilling to try any experiments on such an intractable and loathsome complaint. When the disease is established in a lot of horses, they had better all be destroyed, and the stable treated as for mange, described heretofore. The clothing should either be destroyed or well washed, and then baked; the wood of all the stable utensils should be painted, and the ironwork exposed to a red heat. These means will prevent it from being reproduced, and if proper cleanliness and ventilation are maintained afterwards, whereby the disease may be prevented from being generated, there is little fear of its occurring again; but if Professor Coleman's opinion is correct, that it is almost always generated, and consequently if the first attack was the result of filth and neglect, unless the management has been altered, it is scarcely reasonable to expect anything else but a repetition of the same disease occurring from similar causes.

SECT. 3.—FARCY.

BY THE TERM FARCY, is understood the train of secondary symptoms which follow glanders; and, just as we see in the syphilis of man a primary sore occurring on a different part, followed by inflammation of the absorbents, enlarged lymphatic glands, and an eruption on the skin, so in the horse glanders begins as a series of primary sores in the mucous membrane of the nose, together with an inflammation of the lymphatic gland, or glands, of the throat; and when this state is followed by secondary symptoms, they receive the name of farcy, though the two diseases are the same, as is proved by inoculation. Mr. Youatt was of opinion, that the farcy-buds, as they are called, arise from the inflammation of the absorbents, at the situation of their

valves, and in their course to the great blood-vessels of the chest; but this can scarcely be the case, because the farcy-buds almost always make their appearance first upon the lips and skin of the nose, parts which are more distant from the chest than the original ulcers, and certainly not on the line of any valvular absorbents. The fact is, that, as in syphilis, the matter is absorbed into the whole system, and is then deposited upon the surface, choosing, apparently, the most highly organised skin, in preference to that furnished with fewer blood-vessels. The appearance is as follows:—first of all small tumours arise, frequently in the course of the veins, but often in other situations, and as they grow they become hard, and suppurate; after which they burst, and discharge a thin watery matter; the sore presenting the same appearance with almost all poisonous sores, viz., a deep central cavity with a rugged, hard and elevated edge, and an unhealthy watery discharge. Sometimes the insides of the hinder extremities are affected equally with the fore-quarter; but more often the latter is the chief seat of the eruption, the inside of the arm, the tender skin of the brisket, the muzzle, and neck being thickly studded with farcy-buds and sores in all stages of progress. By and by, the deep-seated absorbents become affected, the ulceration extends deeply between the sheaths of the muscles and tendons, and even into the chest; and, at last, the whole cellular membrane and lymphatic glands become one mass of disease, finally wearing down the horse by irritative fever. This course is the regular one which will occur in most cases; but there are numerous exceptions in which farcy breaks out suddenly without any warning of these small and insidious steps; and the ulcerations run their course more rapidly than I have here described them. With regard to the identity of the two diseases, there can, I think, be little doubt on the matter, when it has so often been demonstrated by inoculation that the matter of either will produce a primary sore in the shape of glanders, followed by secondary ulcers in the shape of farcy. The latter disease, when inoculated into the system of another horse, does not at once reproduce its own likeness, but only by means of a glandered ulcer of the nose, or of any other part in which it is inserted. If it is inserted in the skin, it is some time in breaking out into ulcers, and it does not always succeed, but *finally* the secondary symptoms appear just as if it were introduced into the Schneiderian membrane; hence, it is reasonable to conclude that the two are identical, and that the analogy with syphilis is complete. Farcy is DISTINGUISHED from several other diseases which resemble it by the following signs:—

FROM GREASE it may be known when it attacks the legs, by the inflammation being less acute, though the swelling is often more sudden, but the redness and glossiness are not so great; also by the following symptoms given in the table below:—

IN GREASE,	IN FARCY,
There is generally some crack or evident appearance of grease, with ichorous discharge from the skin, and great redness and glossiness of it. The swelling is very great, but it is greatest towards the lower part, which is evidently the *fons et origo mali*. This attack is often called the "swelled leg," which is perfectly distinct from the ordinary *filled leg*.	There are always some ulcers irregularly circular, and with hard edges; skin not very red, or shining, but swollen and free from discharge. Great general tenderness, but no cracks in the heels; absorbents inflamed, and showing hard lines and knots in their course. The inflammation extends upwards, and the swelling is greatest above the hock.

FROM SURFEIT farcy is easily distinguished, by the absence of all ulceration in the former, and by the hair in it merely coming off, leaving a bare place beneath; the little lumps in surfeit are not so large as in farcy, except in the very early stage; and they come out over the body suddenly, while farcy appears a bud at a time.

FROM ANASARCA there can be no difficulty in distinguishing this disease, because in the dropsy of the cellular membrane there are no lumps, but an uniform swelling of the limb. There is a local œdema of the brisket, which is called WATER-FARCY, most improperly, being merely a sign of general weakness, from the vessels giving way in the most depending part of the body.

THE TREATMENT OF FARCY may be conducted upon more probable grounds of a cure than in the case of glanders—that is to say, if the horse is not so thoroughly infected as is sometimes the case. When glanders is detected early, it is usually a very virulent case, because trifling attacks of it are generally overlooked, and are suffered to degenerate into farcy before anything is done; and thus it is said that the farcy is often curable, while glanders is

scarcely ever so. Now, when this is said to be the case by the very men who maintain their identity, there must be some extraordinary process of reasoning going on in their minds; but the truth is, as I have remarked, that whereas those cases of glanders which come under treatment are very severe ones, so they are difficult of cure; and in the same way farcy is seldom suffered to be developed from glanders when that was originally in a malignant form; and hence, by being mild, it is curable. Such I believe to be the explanation of the fact, which is universally admitted, that farcy is much more amenable to treatment than glanders—understanding by the assertion, farcy and glanders as usually presented to the veterinary practitioner; the former being seldom malignant, and the latter generally so. The cure is effected by local as well as constitutional means.

THE LOCAL REMEDY is the destruction of the ulcer or bud, either by the actual cautery (the budding-iron), which should be applied to every ulcer or bud so as completely to destroy it. The knife should first divide those buds which have not ulcerated, after which the iron will act more energetically upon them, and yet with less destruction of the surrounding skin; or the sulphate of copper should be freely rubbed into the ulcers, and made to destroy their surface. Arsenic and strong nitric acid, likewise, have been used with success, but their power is too great to be trifled with by the inexperienced sportsman. Whatever local remedy is used should be followed up wherever the bud makes its appearance, as there seems to be no tendency to heal without some destruction of parts giving a new and healthy stimulus to the fresh surface. The CONSTITUTIONAL TREATMENT is still more important than the local, and should consist of such substances as will cause an excessive secretion from some organ, carrying with it the poison of the disease; and this substance should be as little lowering to the horse as possible. Three such medicines are known, viz., mercury, arsenic, and iodine, all of which are paraded by their several advocates as certain cures. The bichloride of mercury (corrosive sublimate) is the form generally given, in doses of from 5 to 15 grains, dissolved carefully, and then added to a pint of gruel, and given night and morning. If arsenic is given, it may be administered according to the formula already given; and I believe it to be by far the best remedy in farcy, and the least injurious to the horse. After a time the tonic ball No. 4, page 605, may be substituted for it, and then the arsenic repeated again for three weeks or a month, so as to use the two alternately. But it is only as an experiment upon a horse which would otherwise be shot that I should ever advise the sportsman to use these powerful drugs without regular advice, as it will seldom happen that he will be able to calculate the proper dose, or to know when to push it, and when to hold his hand. Sometimes, however, such a case occurs as the one I have alluded to, and then he may feel justified in trying his luck; and if so, I would suggest his giving the biniodide of mercury as follows:—

> Biniodide of mercury, 3 to 5 grains.
> Linseed meal and water, enough to make a ball.

To be given three times a day. This I believe to be more likely than any other remedy to effect a radical cure of the disease. The dose may be increased up to 8 or 10 grains, with care; but the above will generally be found sufficient, and more safe than corrosive sublimate or arsenic.

SECT. 4.—GLANDERS IN MAN.

GLANDERS IN MAN is a horrible disease, capable of being inoculated from the horse when there is an abrasion of the surface. Numerous cases of this kind have occurred, all of which have been fatal when allowed to reach the stage of absorption. If, however, the inoculated sore is destroyed by the hot iron, or by lunar caustic or fused potass, there is very little risk of the disease spreading; and therefore the groom who has the care of a glandered horse, and who finds a sore on his arm or hand, should always consult a skilful surgeon at once, and follow his advice, if he prescribes any form of caustic, on the supposition that it is the disease we are now considering. When it has been absorbed there seems to be little chance of a cure, though there are one or two doubtful cases on record in which it is said to have been effected. At all events it is worth the trial, and the biniodide of mercury holds out the best chance of a cure, in doses of one-third of a grain three times a day.

SECT. 5.—PARASITES IN THE HORSE'S SKIN.

MAGGOTS are sometimes found in the horse's skin, especially about the thick skin of the back, where they form hard lumps, which are often mistaken for surfeit lumps; but as they continue for many weeks,

during which they slowly increase in size, they at last show their real nature, and when treated with a steady squeeze, come out of their snug nests. I do not know what insect they are developed into, but that they are larvæ is clear enough, and nothing but extraction will do any good.

LICE IN THE TAIL are also a constant source of annoyance to the horse, causing him to rub the hair off it in a most disagreeable way, and disfiguring his appearance sadly. It may generally be known when these parasites are present by the tail being rubbed bare, while the quarters are untouched, or less rubbed than the tail; while in the case of irritation of the anus by worms, the tail is not so much rubbed as the skin covering the haunch bones. Turpentine poured into the root of the hairs is the best remedy, and one which will seldom fail. White precipitate may also be used if the turpentine fails to get rid of the lice, by rubbing it well into the roots of the hair; but the turpentine running readily into their crevices will generally answer better than any other remedy.

BODY LICE are also sometimes found upon neglected horses in great numbers; for which the most effectual remedy is white precipitate, well rubbed into the whole surface, and a muzzle to prevent licking and biting.

CHAPTER V.

ACCIDENTS.

SECT. 1.—STRAINS AND BREAKS-DOWN.

STRAINS may affect either the muscles, joints, or tendons; and each of these three sets of organs are constantly suffering from them. Muscular strains consist of an absolute tearing of the fibrous tissue composing the muscles; or else of such an approach to a disruption as to have an equally prejudicial effect in producing lameness. In some cases the whole of a small bundle of fibres is torn across; but this is not the usual degree in which strains occur, and the most common amount of mischief is only a slight separation of a few of the very small fibres of which the bundle is composed; and this state is then generally spread over a considerable surface, producing considerable soreness from inflammation. TENDINOUS and LIGAMENTOUS STRAINS are very similar in their nature, and consist either in an absolute tearing apart of these fibres, or such an approach to this as to cause great inflammation, and consequent incapacity for using them. Sometimes what is supposed to be a strain of the tendon is really an inflammation in its sheath, which causes great swelling and pain, and the limb is thereby rendered quite useless for the time being.

STRAIN OF THE SHOULDER is generally a cloak for the ignorance of the groom or other attendant upon the horse; it being really a very rare accident, though often assigned as a cause for lameness which is really in the feet, legs, or knees. It is an inflammation of some of the muscles of the shoulder following violent strain, and generally confined to the serratus muscle which slings the body to the shoulder-blade, and which is sometimes strained in coming down from a high leap, &c. The symptoms are a dragging of the toe in the walk, with a deficiency of action on the trot, and a drop of the head while the affected leg is being extended, and not while it is on the ground; hence, when shoulder-lameness is mistaken for foot-lameness, the groom is apt to shift the blame on to the wrong foot. It may also be distinguished by laying hold of the affected leg, and drawing the whole *together with the shoulder* forwards, when, if the latter is affected, the horse will give evidence of pain, which he will not do if the foot or leg is the seat of mischief. The TREATMENT for shoulder-lameness lies in rest, bleeding, purging, cooling-balls, with nitre, &c., as at page 699; and if it continues, the insertion of a rowel in the bosom. A cooling diet of green meat will also be needful, and all the corn should be taken away. After all the heat has disappeared, the horse may be turned loose into a box, and in another fortnight he may be walked out with a leading-rein; but it should be two or three months before he is again mounted. The embrocation given at page 700, No. 2, will in some cases afford relief after the first symptoms are gone off.

STRAIN OF THE STIFLE is confined to the joint, which becomes hot and tender, and often swells considerably. The remedies are the same as for the shoulder; but a

blister will often prove very efficacious, and it may be used in preference to a rowel, and repeated again and again.

STRAIN OF THE ROUND-BONE, or whirl-bone, as it is termed by horsemen, is really confined to the hip-joint, which is often strained, but more frequently said to be so than really affected. It is very difficult to pronounce with certainty that this joint is strained, but sometimes the wasting of the muscles affords unmistakeable evidence of the nature of the disease. Blisters and embrocations afford the greatest chance of relief; but when the wasting is very marked, and there is no evidence of present mischief, nothing but compulsory work will cure the disease. Light farm-work, such as harrowing, and the like, will often do more good than all the applications in the world; simply because the muscles have lost tone, and require the stimulus of necessity to make them recover their power.

STRAIN OF THE BACK SINEW occurs in all the varied degrees from a slight strain to a breaking-down. When the sinews are merely slightly strained, it is generally their sheath which is affected; but if there is very great swelling, especially after racing, the chances are that there is actual breaking-down of the fibres of the tendon or suspensory ligament, and often to a considerable extent. It is very unusual, however, for there to be an actual and entire separation, and the most ordinary condition is for the horse to come in from his race very lame indeed, yet without his fetlock touching the ground, and with only a partial separation of the fibres, so that if it were not for the pain he would bear his weight on the leg. In the worst cases, however, the fetlock joint actually touches the ground behind, and the leg is for the time rendered quite incapable of bearing any weight at all. There is generally some warning of this state of the tendon, which enlarges about midway between the knee or hock and the fetlock, and forms there an oval swelling. When this is the case, the chances are ten to one that an actual break-down occurs, although there may be no absolute lameness; but the inflammation is a sign that the tendon is in an unfit state for work, and that it will most likely give way in the next severe gallop. The PROPER TREATMENT consists in cooling *general remedies*; such as purging, bleeding if necessary, and the nitre and tartar emetic ball at page 701, or some one of the febrifuges there given. To this is to be added light food, consisting of bran mashes or green meat, without corn, and *entire rest*. Locally, cooling lotions are to be applied, and ice, if it can be procured in sufficient quantity. A bran poultice should be applied, with several lumps of ice in it; and as fast as they melt fresh lumps should be added. The poultice is best put in an old worsted stocking, which will hold a large mass of bran round the leg. In this way the active inflammation may generally be speedily subdued, reducing it to the state in which strains of the back sinew usually appear; but, of course, the more complete the rupture of the tendon the greater the difficulty of effecting a radical cure. But it should be known that these parts reunite, and that a broken-down horse will often recover the use of his leg for ordinary purposes; though he will seldom stand the severe trial which racing or training demands. After the ice poultice has been discontinued, or in default of ice, the evaporating lotion No. 6, page 702, may be constantly applied with a calico bandage; and at the end of three weeks or a month, when the leg is quite cool, it may be necessary to blister or fire the limb; or to apply a charge (see page 698). If the strain is very severe, nothing is so effectual as firing, followed by a blister. Next to this comes an ordinary blister with mercury (No. 3, page 697), or the biniodide of mercury (page 697). The charge is a good remedy after this last, as it prevents the horse from using the tendon too soon, and affords a firm mechanical support. The good effect of the arnica is also very considerable. In old swellings of the back sinews, consisting of an enlargement of the sheath, rather than of a real break-down, the sweating embrocation No. 3 or 4, page 697, will often effect an absorption of the swelling, and prevent further mischief; but it should not be used when there is any heat of the part, the cooling lotion being then the proper remedy. It should always be remembered that in strains, when there is increased heat of the leg, cooling medicines, low diet, and cooling lotions are the proper remedies; and that firing, blistering, and stimulating embrocations must be deferred until this treatment has had time to produce the desired effect. If the contrary plan is pursued, matters are only rendered worse than before, and a slight strain is often thereby converted into a serious mischief. This golden rule should be rigorously acted on by stablemen in all cases.

SECT. 2.—BROKEN KNEES.

BROKEN KNEES, like strains, are of every degree, from the slightest touch to the horrible wounds of the joint which sometimes occur when a horse is dragged

over a flinty road, or falls over a heap of stones. These accidents, however, rarely occur, if we are to believe the assertions of horse salesmen who pledge their honour (!) to the fact, that each case has been occasioned by the manger, or by a stone-wall in hunting, if the horse has at all the appearance of that class of animals who are likely to be used as hunters. But, leaving the cause out of the question, it remains to consider what is the best TREATMENT when it unfortunately happens that a particular horse has really touched his knee by a contact with the ground. This will depend upon the extent of mischief, which may be to one or other of the three following degrees:—First, if the hair and cuticle only are rubbed off, and the *cutis*, or real skin, is entire, the best plan is to give the horse a dose of physic, and bathe the knee night and morning with hot water, if there is any swelling, or to apply the tincture of arnica diluted with water, in the proportion of two drachms of the tincture to a pint of water; then, when all the inflammation is gone off, which will usually be in a couple of days, apply Lieutenant James's blister to the whole of the knee except the back, which is to be well guarded with lard, and this will bring off all the hair, which will be renewed, together with that covering the part rubbed off, in about three weeks; and will almost invariably prevent any blemish, which is very apt to show itself if the blister is not applied; for although the hair comes on again if left to itself, it is often of a different colour to that of the surrounding parts, and the critical eye distinguishes the blemish at once. Secondly, if the true skin is cut through so as to show the cellular membrane beneath it, but the joint itself is not exposed, a physic ball may be given as before, and hot fomentations applied if the bruise is very severe, or the arnica wash at once if there is only moderate swelling. As soon as the inflammation is abated, I should here also apply James's blister, because I have always found that the swelling caused by it contracts the wound, and that the consequent blemish is much less than would otherwise be the case. Indeed I have succeeded in this way in effecting *almost* complete cures of very large wounds of the skin, where a piece of it as large as a crown-piece, has absolutely been cut away, besides more extensive abrasions of the cuticle around its edges. Such a broken knee would, in the ordinary way, have exhibited a permanently bare spot of the size of a half-crown, but by the above treatment the bare space was not bigger than a pea, and sometimes scarcely so large. After the blister has risen it must be carefully dressed with sweet oil, or lard without salt, sometimes called "fresh liquor;" and when the wound on the knee throws out healing granulations *above the level of the skin*, they must be kept down to the exact level by touching them freely with a piece of bluestone every day. The whole art consists in the causing the wound to contract by the swelling and stimulus of the blister, and in keeping down the granulations, or "proud flesh," as they are called, by means of the caustic. The groom, however, should carefully avoid touching these, unless they are above the surrounding skin, for below its surface they are useful and necessary to the healing process. Thirdly, when the joint itself is opened, the aid of a veterinary surgeon should be called in, who will decide upon the propriety or otherwise of destroying the animal. Sometimes there is only a small opening, which may at once be closed with the touch of a hot iron; and at others there is a discharge of serum, which the uninitiated will mistake for synovia (joint oil); but in any case, it is better to have the advice of a competent judge of the injury.

SECT. 3.—KNOCKING DOWN OF THE HIP.

THE POINT OF THE HIP is often knocked off by the horse being cast in the stall or in the field; sometimes by falling into a ditch in the dry summer weather, when the struggles of the animal will often break off the extreme point of the hip, especially if at all ragged, and then the muscles acting upon the broken portion to which they are attached draw it down out of its place, and the hip is said to be "knocked down." After a time it does not much interfere with the ordinary action of the horse; but I am not aware of any horse having been able to race after such an accident, though many otherwise likely colts have been thrown by, and used for the stud or other purposes in consequence of its occurrence. Nothing can be done to relieve the horse, and time only will remove the lameness, which at first is often very considerable, from the bruises which the muscles have received, as well as the disruption of their fibres which must necessarily have occurred.

SECT. 4.—CUTTING AND OVER-REACHING

BY CUTTING is usually understood the striking of one leg or fetlock by the other foot; not including in this description the more severe and dangerous form of

speedy-cutting, which will be described in the next paragraph. Horses almost always cut from their legs being set too close together, or from their not bending them perfectly straight forwards in their action. Many horses, however, only strike their legs when first put to work, or when very poor, and leave the trick off as soon as they recover their flesh and strength. It is often at first a most difficult point to decide upon the exact cause of cutting; whether it is from the horse hitting his leg with the shoe, or from raised clenches, or from the foot itself being the offending body; but if the other foot is examined after trotting the horse in a rather dusty road, or if it is well covered with dry whitening, it may easily be seen where the horse hits himself, and how best to remedy it. Very often the cutting is in the hind-foot, in which the blow is given by the shoe or hoof striking the other fetlock joint, in consequence of the legs not being set on quite straight, and the fetlock bending too much; the joint is thus brought too near the middle line between the two. In this case the heels are to be raised, that on the outside having a "caulk" or "cog," whilst the inner one is raised to the same height, but without any projection, and presenting what is called a "feather-edge" in the language of the smith. This edge has no nails in it, so that not only is the heel raised without any cog, which throws the fetlock out of the line of the other foot, but there is no nail on the hoof to strike the opposite joint, and consequently it is doubly efficacious. The inside of the hoof should hang over the feather-edge very slightly, and be rasped very smoothly, so as to glide by the opposite joint without offering the slightest projection. A boot should be worn until the sore place occasioned by the cutting is quite well; and this should always be done whether the cutting is in the fore or hind-leg, because the swelling occasioned by the soreness projects into the line of action, and consequently the injury is constantly kept up without chance of relief; but if once the original mischief is got rid of by the use of the boot, there is a chance of the horse being able to do without it, and also ceasing to cut. When the fore-leg is the seat of cutting there is much more difficulty in obviating the mischief, because it generally arises from a more awkward twist or distortion of the leg. Generally the cutting occurs in the horse which turns his toes out, and then there is often no remedy but a good boot, either of cloth, leather, or India-rubber. Sometimes, however, the cutting arises simply from the legs being set on too close together; and then it may generally be prevented by reducing the outer side of the crust, and also making the inside web of the shoe thicker than the outer; keeping it likewise free from nails, with a feather-edge somewhat similar to that described for the hind-foot. The horn of the hoof must be kept carefully smooth; and it also, as in the hind-foot, should project slightly over the shoe. In some cases a very plain and level shoe is the best remedy; but these are few as compared with those which are remedied by the raising of the inside web.

SPEEDY CUTTING is the striking of the leg just below the knee, and chiefly in the gallop. It may almost always be detected by examining the part on the inside of the leg, close under the projection of the knee; when, if the horse "speedy cuts," some little scab or roughness will almost always remain, unless the horse has been put by for a long time, and kept to the walk and trot. No shoeing will remedy this defect, and the only relief is the boot made expressly for it, with a stiff pad extending up the leg to the knee. Without this the horse is always liable to fall, from the severe pain inflicted by a blow in the gallop, which will sometimes make him drop as if he were shot, to the great injury of the horse, and danger to the rider.

OVER-REACHES are produced by the long action of the horse, when he is inclined to tread upon the heel of his fore-foot with the toe of his hind-foot. Such horses are generally deficient in the action of their fore-legs as compared with their hind-legs: and they do not raise the former exactly at the moment they ought, but delay until they are overtaken by the hind-foot. The CURE of the tendency to over-reach is partly to be effected by time and increasing age, as well as good riding, which sets the horse upon his haunches, and makes him pick up his legs more quickly, so as to get away from his hind-feet. The horse which is inclined to over-reach may be known by his putting his hind-foot down eight or ten inches beyond the footmark of the fore-foot in the walk; and even in the trot sometimes nearly as far. He will in the latter pace generally "click," especially when tired; which noise is occasioned by the toe of the hind-shoe striking *the toe* of the fore-shoe, and never the heel, as is sometimes supposed. When an actual over-reach occurs it is done in the gallop or leap, from the hind-toe dropping upon the heel of the fore-foot while it is sticking in deep

round, or in a hole or other inequality; nd very rarely in the gallop on perfectly evel ground, unless the horse is in great ifficulties, and thrown out of his stride. The TREATMENT of the actual mischief hould be by the application of the tincture f arnica, of the full strength, which dries p the discharge, and prevents that peculiar nflammation of the top of the hoof which lways has a tendency to run on into uittor. The horn, when the adjacent parts re inflamed, seems to poison them, and to roduce an unhealthy discharge, which is ery difficult to stop; and therefore it is a reat object to dry up the wound, and get t to heal with a dry scab over it, which incture of arnica effects; or blue-stone, or unpowder, which last is the old sportsman's remedy. If the over-reach is a very ad one, and the parts are much torn and ruised, the tincture of arnica, diluted as ecommended at page 702, may be used as lotion on a bandage; but in most cases, y gently brushing a little of the tincture nto the wound, previously having removed ll dirt, and then tying it up with a strip of alico round the hoof, so as to keep the arts together, and also to guard it from he dirt, the bruise heals without suppuraion, and in a week or ten days the horse s again ready for work; but until that ime he should be confined to a loose box.

SECT. 5.—QUITTOR, PRICKING, THORNS, &c.

QUITTOR consists of a sinus running lownwards beneath the horn of the hoof, nd occasioned by a blow or other injury of he coronet; or by some cause which has roduced an abscess under the horn. It is, n fact, a sinus under the hoof; but those nly are generally called quittor which lepend upon bruises or wounds of the oronet; whilst those sinuses arising from ricks or inflamed corns are called "sinuses f the foot." In the former case a stimuating application, thrust in with a probe overed with lint, will generally cause adesion of the sides of the sinus, and effect a ure. A strong solution of nitrate of silver, r chloride of zinc, is the best remedy (see age 698). If the sinuses arise from below, nd break out at the coronet, an opening must be made in the sole of the foot wherever the prick or corn produced the mischief, so that the matter will always gravitate towards the bottom, and thus the sinus will heal at the top. The nitrate of silver will here also be a good dressing; or friar's balsam may sometimes be used with advantage.

PRICKS IN SHOEING are constantly occurring, especially in country districts, where the smith often drives three or four nails in succession before he gets one to come out at the right place; and the horse's flinching clearly shows the sensible part into which the nails have made their way under his wild blows. It often happens that the injury is not at once detected, but a day or two after shoeing the horse is evidently uneasy in his foot, and more or less lame. On removing the shoe it is found that there is great tenderness at some particular part of the foot, and sometimes a slight bulging; but this is seldom evident so soon. It is the better plan to place the foot in a cold bran poultice, without a shoe on, and wait for a day or two, when if the foot continues very hot, the smith must pare down the horn over the suspected place, and let out the matter if there is any; or, if necessary, bleed at the toe, which is likely to relieve the inflammation, and prevent suppuration, if it has not already occurred. If matter has formed, and is let out a little, friar's balsam is pushed into the abscess on a piece of lint, and the shoe tacked on; but the lint must be so left as to be capable of being pulled out on the next day, so as to leave a clear opening for the matter to escape. In a few days the shoe must be taken off again, and any ragged pieces of horn removed, as well as the opening enlarged, if necessary. The sinus may now be treated as described under quittor. Sometimes a prick occurs from a nail picked up on the road, and then the accident must be treated exactly as if it occurred in shoeing.

THORNS received into the skin in hunting are often very troublesome, and should be searched for most carefully when they are suspected to be present. The best way is to wet the leg thoroughly with hot water, and then to smooth the hair down slowly with the fingers, when the slightest inequality will be discovered, which in the dry state would be readily passed over. When the thorn is found, it may be extracted with a pair of tweezers; or sometimes it may be necessary to slit the skin up for a short distance, in order to reach the butt-end of the thorn, which should be removed entire if possible.

SECT. 6.—FISTULOUS WITHERS.

FISTULA OF THE WITHERS arises either from a bruise of the saddle causing inflammation and abscess, or from injury received in rolling, either in the field or in the stable. The abscess has a tendency to burrow downwards, and the CURE can only be

effected by making a depending opening, which will require the aid of the veterinarian, and I shall therefore not dilate upon their treatment.

Sect. 7.—Warbles, Sit-Fasts, Saddle and Collar-Galls.

These are all occasioned by the pressure of the saddle or harness, and are generally easily managed if only the pressure can be kept off for a time. The lotion No. 6, given at page 702, is very serviceable in all these affections, and will generally effect a cure. Sit-Fast is merely a name for an obstinate and callous galled-sore, which has repeatedly been rubbed by the saddle, and has become leathery and disinclined to heal. If time can be allowed, there is nothing like a small quantity of blistering ointment rubbed on; or the application of a small piece of fused potass; or even the nitrate of silver in substance, or blue-stone; all of which will produce a new action in the part, and if followed by rest from the saddle, will generally effect a cure.

Sect. 8.—Fractures and Dislocations.

These accidents in the horse can seldom be treated successfully, and never by any one but the competent veterinary authority. I shall therefore not take up space by attempting to *mislead* the sportsman into a belief that he can treat any such case in the horse himself.

CHAPTER VI.

MINOR OPERATIONS ON THE HORSE.

Sect. 1.—Bleeding in the Neck, Leg, and Toe.

Bleeding in the Neck Vein is performed either with a full-sized lancet or with the fleam; the latter only being used by grooms, or those who will be likely to read these observations, while the lancet is confined to the skilled practitioner of veterinary surgery. Besides the fleam, a blood-stick also is required, consisting of a piece of hard wood, generally loaded at one end with lead, so as to strike a very smart blow upon the fleam, and thus perforate the wall of the vein with certainty. The unloaded stick is the proper instrument, and it should only be struck with such force as to drive the fleam through the outer wall of the vein, and not to pass through both. The horse is blindfolded, or so managed by the aid of an assistant as not to see the blow; the hair is then smoothed down with a damp sponge, and then with the three unemployed fingers of the left hand (the fleam being held with the thumb and forefinger) the vein is pressed upon below the place where it is intended to be opened, and raised prominently; after which the blow is given, and the blood flows, the previous pressure of the fingers being supplied by the edge of the bucket which collects the blood. When enough blood has been taken, the lips of the opening are brought carefully together, and a common pin passed through, after which the sharp point is cut off, and some tow is wound round the ends so as to keep all together; in two or three days the pin may be removed. The horse's head will require to be tied up for a few hours, to prevent his rubbing the place.

The blood should always be preserved, that the *quantity* drawn may be accurately known, and its *quality* examined on the next day; when, if there is a yellow-cupped surface, called a "cupped and buffy condition" of the blood, there is evidence of inflammation, and the bleedings will generally require to be repeated.

Bleeding from the Inside of the Arm or Thigh is sometimes practised, but here the lancet is the only safe instrument, and with it the vein is to be opened as directed for the dog.

Bleeding from the Toe is often required in diseases of the foot, and it is managed by the smith who removes the shoe, and then with a fine drawing-knife cuts down upon the vein which runs along the line of junction between the sole and crust. The bleeding may be made very profuse in this way, and it is stopped by pressure with tow, which is first inserted in the opening, and then kept in its place by tacking the shoe on again.

The Quantity of Blood Drawn will depend upon the nature of the disease, and the strength and size of the horse; but it averages about a gallon in most cases. Too large and too frequent bleeding should be carefully avoided in all cases.

Sect. 2.—Rowels.

Rowels are inserted in the skin of the horse, in order to allay inflammation by exiting counter-irritation. Their insertion is ffected by a "rowelling-needle" like a kewer, but sharp at the point; to this piece of tape is attached, and pushed hrough the skin, which is previously raised y the hand of an assistant, and in this ray a long track of inflamed cellular membrane may be caused so as to procure a ery copious discharge, which may be increased, if necessary, by smearing on the ape the mild blistering ointment given at age 697.

Sect. 3.—Raking.

When a horse is so confined in his bowels, rom the lodgment of hardened fæces in is rectum, as to be unable to pass them, he hand is well oiled, and introduced into he bowels, and in this way, lump by ump, it is extracted; and then a few uarts of warm water, or gruel, being hrown up, the whole bowel easily relieves itself.

Sect. 4.—Shoeing.

The Anatomy of the Foot should be arefully studied by every one who attempts o superintend a smith in his work; and, n fact, even the smith himself should know omething of the formation of this important organ. The foot is composed of three parts—first, of the bones, cartilages, tendons, &c., by which the general shape is maintained, and the limb moved; secondly, of a delicate membrane, by which the last bone is covered, and which serves to secrete the horn of the hoof; and thirdly, of the hoof itself, a dead mass, or shell of horny matter, which, in a state of nature, is intended to protect the foot from the friction of the ground, but, in our treatment of the horse, serves chiefly to receive the shoe which we nail to it, in order to guard against the excessive hardness of our roads, and very often the sharp flints with which they are mended.

The Bones, &c., consist of the coffin-bone, at the extreme end, which is nearly of the shape of the foot, but smaller. This is attached to the lower or smaller pastern-bone, which also is partly covered by the upper part of the horn. It is very light and spongy, and is perforated by numerous small holes for the blood-vessels, which supply the *laminæ*, or plates, with which it is covered. It is moved by a tendon inserted before, and another behind, by which the foot itself is raised and lowered again upon the ground. Around the exterior of this bone is a series of folds of membrane, of a half-horny character, but full of blood-vessels, and constituting not only a glandular apparatus for the secretion of the horn, but also an elastic bond of connexion with the horn itself. It is supposed that, in the usual way, these plates, by their attachment to the horn of the hoof, suppo t the weight by a kind of suspension, and that the sole takes little or none of it; and it is only in work that the sole descends upon the ground, and then receives some considerable pressure from it. At all events, there is no doubt that the laminæ take a very great amount of pressure off the sole and frog.

Beneath the coffin-bone is the sensible sole, formed in its upper part by an elastic substance, and below of a vascular one, which somewhat resembles the skin It is placed between the coffin-bone and the insensible sole, as a means of diminishing the shock, and also acting as a species of gland in secreting the horny sole.

Behind and between the two divisions of the sole is the sensible frog, which is a soft mass, of a spongy nature, partly also ligamentous in its character. In shape it corresponds with the frog, as seen from below, and it is attached to the coffin-bone and cartilages of the heels by numerous vessels, and nerves, and cellular membranes.

The Navicular Bone is placed behind and between the lower pastern and coffin-bones, forming a joint with both, and materially strengthening their union. It also receives some of the weight which is thrown on the lower pastern, and acts as a lever for the flexor tendon.

The Cartilages of the Foot project beyond and behind the coffin-bone, and add to its surface for the attachment of the laminated plates, and also of the horny matter.

The Hoof itself is, as it were, a case or cast of the parts within it, and it consists of the wall or crust of the sole and of the frog.

The Crust or Wall, is that part which is uncovered by hair, and which is seen when the foot is on the ground. It is deepest in front, and should in a sound foot form an angle there with the ground of about forty-five degrees. If flatter than this, it constitutes the "oyster shell" foot; and if more upright, the foot has always a tendency to contract. This crust is in front about half an inch in thickness, gradually becoming thinner towards the heel,

especially the *inner* one, and thicker towards the ground. The inner heel is also a little higher than the outer, and wears away more rapidly, from the friction of the road being greater there than on the outer side. Where the crust joins the skin at the coronet, it becomes rapidly thin; and this is called the CORONARY RING, which covers an expansion of the skin, called the CORONARY LIGAMENT. This is really no ligament, but is the glandular organ which secretes the crust, or the greater part of it, the inner layer being formed by the laminæ on the coffin-bone. A knowledge of this office leads to the application of remedies to the coronary ligament when there is a deficiency of horn, and not to the horn itself, which is dead matter, and incapable of doing anything to alter its own qualities. The inside of the crust is marked by deep grooves, being horny plates or projections, which fit into the corresponding laminæ on the coffin-bone already described.

THE SOLE is a concave surface of horn attached to the sensible sole above, and containing between its two portions the frog, to which it is connected by the bars at the hinder part. The bars are continuations of the crust, which bend inwards and forwards, and then lose themselves upon the frog itself. In the angle between these two portions is the place usually occupied by corns.

THE FROG is an elastic and insensible substance of a wedge-like form, with the point forwards, which is intended to give the horse secure foot-hold, and also to diminish the concussion with the ground. In the middle is a cleft, in which offensive matter is apt to accumulate, and thereby cause thrush.

THE PRACTICE OF SHOEING, for its due performance, depends upon several conditions, one of which is that the smith shall have some knowledge of the common laws of mechanics, and shall be able to adapt to his particular purpose the various expedients into which his materials are capable of being combined. This constitutes the chief difficulty of shoeing; for on a healthy foot almost any rude artizan can manage to nail a shoe.

The first thing to be done is to remove the old shoe, and carefully examine whether any alteration from the usual mode will be of service. The nails should first all be punched out, after raising their clenches, and then the shoe will always readily leave the foot, without the exertion of any improper violence. The next thing is to pare down the horn, if it is redundant, and to clear it out from the corn places, as well as to smooth off any ragged portions of the frog. When the foot is pared out (in doing which the smith should carefully leave the bars), the shoe is next fitted on; here the smith may take advantage of its heat to ascertain its bearing, but not to let it form its own seat by the burning down the hoof, as careless smiths too often do. The slightest touch is enough for the smith to see what horn is required to come off, which he easily does with his knife; and in this way the shoe is soon fitted. I have already dilated upon the absurd system of shoeing the foot with a shoe wider at the heels than the foot, and I can only return to the subject here by way of a reminder, the reader being referred to the article "Contraction," under Diseases of the Foot, for further information. When the shoe is nicely fitted, it is next nailed on, and for this purpose three nails are generally used on the inside, and four on the outside. The nails are turned down, and then they are twisted off with the pincers, and hammered down in their places, letting them into little notches, which are formed for them with the rasp.

THE VARIETIES OF THE SHOE ARE—the ordinary shoe; the concave or hunting-shoe; the bar-shoe; the tip or short shoe; and the plate or racing-shoe, which is made of varying degrees of lightness, according as it is wanted for flat-racing or steeple-chasing. The three first also are made of varying strength and size; but all this must be seen to be understood; and the limits of this book will not admit of any minute description of the various forms of shoes, nor of that skilful adaptation by which the smith manages to avoid pressure upon diseased parts, by throwing the weight upon sound and healthy structures. Some horses cannot go at all in concave shoes, because their soles are so tender that the flat internal surface of the web pressing upon them causes great pain; and others, again, require some modification of the ordinary shoe, because their crust is too weak to carry all the weight.

Leather soles are often applied between the shoe and the foot, and are of great use in feet which are much battered, and especially when the sole is thin but healthy; but in pumiced-feet with convex soles they often do very great harm, and are not then to be tried with any prospect of success.

THE BAR-SHOE is a complete ring of iron, which either receives the pressure of the frog, or takes all off it, acting then as a shield to that important part of the foot.

Plates are nothing more than very light rings of iron, with merely a groove in them for the lodgment of the heads of the nails. They are of little use, except to prevent the crust from breaking away.

TIPS are short shoes put on the fore-feet of horses at grass, so as to prevent injury from the blows of the ground, and yet to allow the frog and heels to be in contact with it.

SECT. 5.

CASTRATION is the operation of removing the testicles of the horse, and is now performed with great dexterity by our best veterinary surgeons, and with very little risk to the colt. It should, however, never be attempted by any one but the above gentlemen; and I shall not occupy space here by a description of the operation. It is generally performed upon the colt at or soon after weaning-time; but in many cases, when the head and neck are not sufficiently developed, it should be deferred to the spring of the second year.

SECT. 6.—RUPTURES.

RUPTURES AT THE NAVEL are cured by passing a strong pin through the skin, and then winding some cord round it so as to produce inflammation and obliteration of the passage. But this should also be left to the regular practitioner.

SECT. 7.—NERVING.

NERVING is an operation done upon the nerves of the feet, by which they are divided, and thus those organs are rendered for the time insensible to pain. It is easily done by any one who knows the relative situation of the veins, arteries, and nerves; but no one who is not accustomed to the knife should attempt the operation.

SECT. 8.—ADMINISTRATION OF CHLOROFORM.

CHLOROFORM may be given to the horse on the same principle as to the dog; and by means of a nose-bag it may easily be introduced into his system, by which he is rendered wholly insensible to pain. The same kind of apparatus as for the dog, but on an enlarged scale, will soon have the desired effect; but the veterinary surgeon should always have the control of so active an agent.

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